

HEALTH CHALLENGES OF URBANIZATION

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Abstract

Urbanization is rapid population growth in urban areas and is often due to internal migration from rural to urban areas. In many countries urban areas are characterized by size and population density and in some developing countries the availability of electricity and piped water is also taken into consideration. Urban areas face many health challenges including mental health, intimate-partner violence and alcohol abuse, HIV/AIDS, malaria, tuberculosis (TB), indoor air pollution, outdoor air pollution, traffic-related injuries and deaths and risks from climate change. The focus of World Health Day 2010 was on the health challenges presented by an increasingly urbanized world. World Health Day 2010 provided a unique opportunity to promote and develop visionary plans and programmes to address health issues in cities all over the globe. Health issues

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in urban areas often merit attention regardless of the socioeconomic status of the countries involved. It is projected that by 2030, more people in the developing world will live in urban than rural areas and by 2050, two-thirds of its population is likely to be urban. The world's population as a whole is expected to grow by 2.5 billion from 2007 to 2050, with the cities and towns of developing countries absorbing almost all of these additional people. This demographic transformation might aggravate the health problems already experienced in urban cities across the globe. Therefore there is need to plan interventions that might reduce the negative health implications of urbanization on urban dwellers. This paper therefore discusses the health challenges of urbanization.

Key words: health, challenges, urbanization

Introduction

Urbanization is defined as rapid population growth in urban areas and is often due to internal migration from rural to urban areas. The definition of urban differs substantially around the world, depending on population composition and level of development. In many countries urban areas are characterized by size and population density and in some developing countries the availability of electricity and piped water is also taken into consideration (United Nations, 2008a). Nonetheless, increased population growth often occurs in areas with a high population density and it poses major challenges for public health. Urban areas face many health challenges related to mental health, intimate-partner violence and alcohol

abuse, HIV/AIDS, malaria, tuberculosis (TB), indoor air pollution, outdoor air pollution, traffic-related injuries and deaths and risks from climate change. Rapid population growth can result in the unplanned expansion and proliferation of urban slums and low-income settlements. Particularly in low-income countries, a lack of resources and economic opportunities can contribute to a reduced capacity for adequate urban planning. In the absence of an organized and regulated approach to dealing with population growth, uncontrolled urban development can lead to high levels of pollution, poor public transportation systems, and uncontrolled construction of unsafe housing, overcrowding, water contamination, inadequate sanitation

and other health hazards. In addition to these physical factors, urbanization can impact the social determinants of health (World Health Organization, 2010a).

Rapid urbanization is a distinct characteristic of many countries in the world. It is driven by rapid population growth and by economic and development policies that have encouraged a change from agrarian to urban-based economic activities (World Health Organization, 2010b).

On 7 April 2010, the World Health Organization celebrated World Health Day 2010, the theme of which was 'urbanization and health'. The focus was on the health challenges presented by an increasingly urbanized world. World Health Day 2010 provided a unique opportunity to promote and develop visionary plans and programmes to address health issues in cities all over the globe, including Nigeria (World Health Organization, 2010b). Through the 1000 cities 1000 lives campaign, events were organized worldwide calling on cities to take health activities into the streets. The goals of the campaign are to open up public spaces for health activities in cities and collect stories of urban health champions who have had a significant impact on health in their cities.

The Challenges

Health issues in urban areas often merit attention regardless of the socioeconomic status of the countries involved. In low-income and middle-income countries, pollution, congestion and overcrowding exacerbate the burden of communicable and non-communicable diseases. In high-income countries, diabetes has reached epidemic proportions, cancer incidence is rising and tobacco and illicit drug use continue to pose challenges for communities. The underlying factor for these phenomena appears to be the lack of public health facilities and services for many residents of urban areas.

In 2009, the WHO Regional Office for the Eastern Mediterranean commissioned five case-studies on urban health to highlight and provide much needed evidence of the health inequalities that exist in the region. The five case-studies from Egypt, Morocco, Pakistan, Sudan and Tunisia provided an overview of the formidable health challenges faced in urban areas in the region. The preliminary evidence presented by these studies provides a powerful argument for city planners, municipal authorities, nongovernmental organizations and civil society in their efforts to improve urban health. It is intended to be used as an advocacy tool

to sensitize policy-makers and parliamentarians to urban health issues and influence them to make positive changes.

Mental Health

Over the past decade, the World Health Organization (WHO) has issued a series of reports emphasizing the importance of mental health in developing as well as developed countries. Community-based studies of mental health in poor countries suggest that 12% to 51% of urban adults suffer from some form of depression (Blue, 1999). Anxiety and depression are typically more prevalent among urban women than men and are believed more prevalent in poor than in non-poor urban neighborhoods (Almeida-Filho, 2004). Although less is known about mental health among adolescents, recent studies indicate that this age group also merits attention. In a study of mental health among adolescents in Cali, Colombia, girls were found to be three times more likely than boys to exhibit signs of mental illness; further analysis showed that low levels of schooling, within-family violence, and perceptions that violence afflicts the community were all significantly associated with mental illness for these adolescents (Harpham, Grant, & Rodriguez, 2004).

Mental ill-health can affect other dimensions of health in two principal ways. First, it has been hypothesized that socioeconomic stress undermines the physiological systems that sustain health. A second hypothesis is that a woman's mental health affects the energy she can deploy in seeking health care on behalf of her children and other family members. To date, surprisingly little has been written on how mental ill-health affects a woman's health-seeking behaviour or undermines her sense of self-efficacy (Araya, 2003; Patel, 2007).

Intimate-partner Violence and Alcohol Abuse

Violence in urban areas takes a variety of forms, ranging from political and extrajudicial violence to gang violence, local violent crime, and domestic abuse. Our discussion will mainly be concerned with intimate-partner violence and its links to alcohol abuse and women's mental health (World Health Organization, 2002). Analysis of community-based data for eight urban areas in the developing world indicates that mental and physical abuse of women by their partners is distressingly common, with damaging consequences for women's physical and psychological well-being (Heise, 1994). Data collected from several Demographic and

Health Surveys of countries (Cambodia 18%, Colombia 44%, Dominican Republic 22%, Egypt 34%, Haiti 29%, India 19%, Nicaragua 30%, Peru 42% and Zambia 48%) show that a high percentage of women have been beaten by a spouse or partner (Kishor & Johnson, 2002). According to these surveys, women who were the victims of violence failed to seek help for a variety of reasons. The reasons include embarrassment and shame; the belief that it would be futile to seek care; and the view that violence dealt out by one's partner is inescapable, a burden simply to be endured. In some countries, poor women were more likely than other women to have experienced violence at the hands of their spouses or partners (World Health Organization, 2002).

Where the connection can be explored, strong links have emerged between spousal alcohol abuse and intimate-partner violence. In one study, men in a slum community north of Mumbai, deeply frustrated by the lack of work, were reported to have a high incidence of alcoholism and often beat and verbally abused their wives (Parker, Fernandes, & Weiss, 2003). These findings were echoed in the WHO study, which covered both urban and rural study sites (World Health Organization, 2005). The WHO analysis also documented a close

association between the experience of violence and women's mental health. Among the women in this study, in all but one site, both urban and rural women who had been abused by their partner were significantly more likely to have had thoughts of suicide. In the Bangladeshi urban site, some 21% of those who had been abused by their partner had thoughts of suicide, as opposed to only 7% of women who had not been abused.

HIV/AIDS

An enormous literature is now available on the epidemiology of HIV/AIDS in both developing and developed countries, yet much remains to be learned about its social components. Although HIV/AIDS is commonly thought to be more prevalent in urban than rural areas, the scientific basis for this belief had been thin until recently (Joint United Nations Programme on HIV/AIDS, 2004). Community-based studies of prevalence are now available for a number of developing countries (Dyson, 2003). Data in three countries namely: Kenya, Mali, and Zambia indicate that urban prevalence rates are much higher than rural rates.

Because community-based studies are relatively recent, the role played by urban poverty in the risks of HIV/AIDS is only beginning to be understood. Analysis of

community surveys conducted under the DHS programme show that contrary to expectation, HIV prevalence appears to be higher among the better-off families (Mishra, 2007). Even with other factors controlled, a positive association between living standards and HIV prevalence persisted in this study. In studies of urban adolescents and other socioeconomic groups, however, poverty has been linked to higher HIV prevalence. A number of contributing risk factors appear to place poor-urban women at higher risk, such as earlier sexual initiation and more reported forced or traded sex (Hallman, 2004).

Malaria

Although malaria has often been regarded as a problem afflicting rural populations, and rural rates of transmission are higher than urban rates, there is evidence that malaria vectors have adapted to urban conditions in sub-Saharan Africa (Modiano, 1999). In urban sub-Saharan Africa, some 200 million city dwellers face appreciable risks of malaria, and an estimated 25 million to 100 million clinical episodes of the disease occur annually in this region's cities and towns (Keiser, 2004). Urban population growth in sub-Saharan Africa, may be contributing substantially to the global burden of malaria morbidity (Hay, 2004).

Tuberculosis

Tuberculosis (TB) is among the leading causes of death for adults in low and middle income countries, killing an estimated 1.6 million people worldwide in 2005 (World Health Organization, 2007a). As in the 19th century, urban crowding increases the risk of contracting tuberculosis, and high density, low-income urban communities may face elevated levels of risk (van Rie, 1999). The interactions between HIV/AIDS and TB, and the spread of multidrug-resistant strains of the disease, have generated fears of a global resurgence.

The country profiles reported by WHO indicate that a number of countries have yet to reach the WHO target rate (set at 85%) for successful treatment of identified patients. In addition, although data are scarce, it is likely that detection rates of TB among the urban poor are well below rates for other urban residents. Recent studies suggest, however, that urban collective efficacy may be harnessed to successfully identify and treat TB. A programme in urban Ethiopia showed how the local social resources of urban communities (organized in 'TB clubs') can be marshaled to reduce the stigma associated with the disease and to encourage patients to adhere to the demands of the short-course regimen of treatment (Sagbakken, 2003). Similar interventions have been fielded in

urban India, using community health volunteers to identify local residents with symptoms of TB and refer them to hospitals for diagnosis; local health workers attached to the hospitals then provide follow-up care and lend support during treatment (Barua & Singh, 2003).

Indoor air Pollution

Estimates suggest that more than 2 billion people worldwide rely on solid fuels, traditional stoves, and open fires for their cooking, lighting, and heating needs (Larson & Rosen, 2002). These fuels generate hazardous pollutants, including suspended particulate matter, carbon monoxide, nitrogen dioxide, and other harmful gases that are believed to substantially raise the risks of acute respiratory infections and chronic obstructive pulmonary disorders. Such fuels are often used by the urban poor, who must cook in enclosed or inadequately ventilated spaces. The health burdens associated with indoor air pollution are likely to fall heavily on women, who spend much of their time cooking and tending fires, and the children who accompany them.

A study in Bangladesh found that young children and women in poor households face pollution exposures far above those of higher-income households (Dasgupta, 2006). Exposure is determined by the choice

of cooking fuel and where cooking takes place and is affected by common ventilation practices.

Outdoor Air Pollution

Traffic and vehicular regulation are key factors in outdoor air pollution. The Latin American literature is especially rich in scientific analyses of outdoor urban air pollution and its effects on respiratory illness via the intake of airborne particulates and other pollutants emitted by industry and vehicles (Ribeiro & Alves Cardoso, 2003; Santos-Burgoa & Riojas-Rodríguez, 2000). There is increasing interest in the problem in India, China, and other rapidly developing countries of Asia, where the effects of economic growth are readily apparent in levels and severity of outdoor air pollution. In Delhi, India, a crucial public health intervention was recently made by the Supreme Court in a decision that mandated conversion to compressed natural gas for bus, taxi, and other fleets of vehicles. There is reason to think that on a per-vehicle basis, this intervention has been effective; however, because the total volume of traffic has increased in Delhi, it is not yet obvious that the total volume of particulates and other pollutants has decreased (Kumar, 2007).

Traffic-related Injuries and Deaths

In addition to its effect on air pollution, the transport sector figures prominently in urban health through traffic-related injuries and deaths. The scale of this public health problem is enormous. WHO estimates that road traffic injuries lead to 1.2 million deaths annually and an additional 20 million to 50 million nonfatal injuries, the majority of which occur in poor countries (World Health Organization, 2004).

An analysis of pedestrian injuries in Mexico City underscores the importance of mutually reinforcing risk factors; a lack of understanding of how drivers react to pedestrians; inattention by drivers and pedestrians alike to risky conditions; insufficient public investment in traffic lights and road lighting; and dangerous mix of industrial, commercial, and private traffic (Híjar, Trostle, & Bronfman, 2003).

WHO has given particular emphasis to the risks faced by adolescents and young adults, noting that road traffic injuries rank in the top three causes of death worldwide for those ages 5 to 25 (World Health Organization, 2007b). In the WHO Africa region, pedestrians face the greatest risks, whereas in Southeast Asia, deaths occur disproportionately among 15-to-24-year-old riders of bicycles and motorized two-

wheelers. Male children, adolescents, and young adults, face greater risks than females.

Risks from Climate Change

Although much remains to be done to clarify the health implications of global climate change, enough is already known to sketch the core elements of an urban adaptation strategy for poor countries. According to current estimates, gradual increases in sea level are now all but inevitable over the coming decades, placing large coastal urban populations under threat. Many of Asia's largest cities are located in the floodplains of major rivers (the Ganges-Brahmaputra, Mekong, and Yangtze rivers) and in coastal areas prone to cyclones. Mumbai saw massive floods in 2005, as did Karachi in 2007. Flooding and storm surges also present a threat in coastal African cities (such as Port Harcourt, Nigeria, and Mombasa, Kenya) and in Latin America (such as Caracas, Venezuela) (McGranahan, Balk, & Anderson, 2007).

Urban flooding in poor countries is due to a number of factors: city landscapes dominated by impermeable surfaces that cause water runoff; the general scarcity of parks and other green spaces to absorb these flows; rudimentary drainage systems that are often clogged by waste and quickly

overloaded with water; and the ill-advised development of marshlands and other natural buffers. When urban flooding takes place, fecal and other hazardous materials contaminate flood waters and spill into open wells, elevating the risks of water-borne disease. The urban poor are often more exposed than others to these environmental hazards.

In a detailed analysis of urban adaptation needs in India, Revi (2008) concluded that governments from the local to national levels and their public health systems will need to plan for increases in extreme weather events. He observed that the Indian Ocean tsunami of 2004 heightened attention to coastal zone management in India and the region, but the responsibilities for urban adaptation and disaster management are not yet organized coherently. Various types of infrastructure are needed to cope with extreme weather events: secure roads, bridges, and other transport systems; water, sewer, and gas pipelines; coastal defenses and drainage; and power and telecommunications networks. New arrangements will need to be made to coordinate the efforts of local non-governmental and relief agencies to alert populations to imminent threats and respond to disaster, and to engage hospitals, fire and police stations, schools, military forces, and

other first-responders. To effectively organize to meet the threats of climate change, urban public health systems must begin to work with partners across a broad range of urban agencies. Many of the priority areas are already areas of concern on other counts, but the prospects of climate change add a new element of urgency to them.

Conclusion and Recommendation

By 2030, according to the projections of the United Nations Population Division, more people in the developing world will live in urban than rural areas; by 2050, two-thirds of its population is likely to be urban (United Nations, 2008b). The world's population as a whole is expected to grow by 2.5 billion from 2007 to 2050, with the cities and towns of developing countries absorbing almost all of these additional people (Montgomery, 2009). This demographic transformation might aggravate the health problems already experienced in urban cities across the globe. Therefore there is urgent need to understand the social and economic diversity of urban populations, which include large groups of the poor whose health environments differ little from those of rural villagers.

This understanding might help in planning interventions that might reduce the negative health implications of urbanization on

urban dwellers. These interventions may include establishment of health promotion facilities, encouraging the use of condoms, procurement and free distribution of potent insecticide treated bed nets and aggressive diagnosis and treatment of TB patients. The interventions may also include promoting seat belt use for adolescents and adults and use of appropriate restraints for infant and child passengers, encouraging bicycle and motorcycle riders to wear helmets as well as traffic engineering interventions, such as proper maintenance of existing roads, and planning new roads so that high-speed traffic is not routed through densely settled communities or busy markets, schools, and children's play spaces.

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