Bernadette Nirmal Kumar

Health and migration

Michael 2011;8: 240–250.

Over 200 million people celebrated their last birthday outside their country of birth. This characterizes the sheer scale, scope and extent of migration. This phenomenon is undoubtedly a contemporary global issue that affects health in complex ways. The health of migrants is influenced by their pre migration socio-economic and ethnic backgrounds, health status, history and the quality of and access to health care. The circumstances of migration and the social and health characteristics of resettlement further influence health and post migration determinants include the type of work migrants are expected to perform in the host country, their living conditions, their language skills, remaining in contact with family, acquiring a new social network and their access to health and social services. The 'ecological space' travelled by migrants' today increases the complexities surrounding health. Besides recognizing the need for better planning and management of migration and its health dimensions it is critical that countries respond to these challenges. Failure to respond to the emerging realities of poor health and disease of migrants in a timely and adequate manner could prove myopic from a political, economic and social perspective for all concerned.

Migration denotes movement by individuals or groups from one place to another often over long distances. The people who migrate are called *migrants*, or, more specifically, *emigrants, immigrants* or *settlers,* depending on the historical setting, circumstance and perspective. In this paper migrants are defined as those who move across the borders of countries, not within their own countries. Migration is an age old phenomenon and whether through outright conquests or slow cultural infiltration and resettlement, migrations have shaped the grand epochs in history e.g. the fall of the Western Roman Empire and transformed the world e.g. the prehistoric and historic settlements of Australia and the Americas. Research on migration

and ethnic relations is intrinsically interdisciplinary with each of these disciplines reviewing different aspects and adopting varied approaches based on differences in theory and methods (1). While a discourse on the theories of migration is beyond the scope of this article some of the aspects relevant for health will be briefly outlined below.

Migration – Salient Features, the Migratory Process and Current Status

Migration in this day and age might also be referred to as the *globalisation of* migration as there is a tendency for a greater number of countries to be affected by migratory international movements simultaneously (1). The *Acceleration of migration* is evident by annual growth rate of international migrants at 2.9 % (1). This quantitative growth increases both the urgency and difficulties of government policies. Governments are further challenged by the *differentiation of migration* that is that most countries have a whole range of types of migration i.e. labour migration, asylum seekers and refugees, family reunification to name a few at the same time.

While migration before 1960s was male dominated the current trend indicates the *feminisation of migration* with women playing an increasingly significant role in all regions and types and making up 48.6 % of all migrants (1). As the scale, scope and complexity of international migration grows, its' importance has risen to the top of the global policy agenda. This has led to the *politicisation of migration.* Domestic politics, bilateral and regional relationships and national security policies of states around the world are increasingly affected by international migration. Policies and regulations concerning migration are rapidly changing and have become more restrictive. Though this might reflect some signs of a growing xenophobia it can be largely attributed to the fact that migration is unplanned, relatively unregulated and poorly managed.

Contemporary debates feature three main approaches to the theories of migration; the neo-classical economic equilibrium theory, the historical-structuralist approach and the migration systems approach (1). The neo-classical economic equilibrium has its antecedents in the earliest 'general theories' that emphasized *push-pull*, because the perceived the causes of migration to lie in a combination of push factors impelling people to leave areas of origin and pull factors attracting them to settle in certain areas. Push factors might include demographic growth, low living conditions, unemployment rate, lack of economic opportunities and wage disparities and political repression. Pull factors are demand for labour, availability of land, economic opportunities, better education opportunities , the differ-

entials in life expectancy and political freedom. *Push and pull factors* are therefore a prerequisite for migration and these could be economic, political, cultural, and environmental (2). This is usually the case for individuals and voluntary migration but the historical-structuralist accounts looked into mass recruitments of labour by capital whether it was in Germany, California or Australia. Both these theories neglected historical causes of migration and interaction of the role of the state and interests of capital with the motivation and actions of groups and individuals that the migration systems theory tries to address.

Migration is determined to a great extent at the macro level by landmark events that govern the social, political and geographical conditions. At the micro level it is the informal social networks, family and community linkages that play an important role in both county of origin and country of settlement. Collective or personal circumstances lead to the decision to leave one's country or nation for another (1). Forced or involuntary migration reflects aspects of humanities inglorious history such as war and conflict, slave trade, trafficking and ethnic cleansing (2). Regardless of the nature of migration voluntary or involuntary every migrant has a unique and personal story. Despite the variation in the motivation, the ultimate goal is the quest to improve the overall quality of life. However migration histories do indicate that risks are often taken as other values of life are given more importance than the risks per se.

Regardless of the etiology and type of migration for the *migrant* it entails being uprooted, displaced, reinserted and re-established (3). Siem describes this *migrant career* from the minute the individual is uprooted from the safe comforts of the 'home country and place' (4). The next phase of this career is the journey that displaces the migrant from home until reinsertion in the 'new home country/place'. After being reinserted comes the re-establishment in the new society and this might have several outcomes from being integrated, segregated and marginalised to being assimilated. Migrants differ from the majority native populations. Regardless of the reasons for migration they find themselves having to deal with these differences as they do not have the knowledge of resources and shortcuts that natives take for granted. Immigrants particularly in the early years after migration often tend to live on the fringes of society.

The international migrant population (those living outside their country of birth) in 2010 was estimated at 214 million (3.1 % of the global population) whereas UNDP has estimated that 740 million migrated within their country of birth. 75 % of all international migrants are in 12 % of all countries (5). USA still hosts the largest number of international migrants

worldwide followed by Europe (including the Russian federation) that is home to 56.17 million migrants where 7-8 % of these are undocumented or illegal migrants. Migrants (foreign born) make up 10 % of the population of high income countries whereas countries where foreign-born made up more than 60 % of the population are Qatar (86 %) United Arab Emirates (70 %) Kuwait (69 %). While the traditional countries of immigration have been USA, UK, Canada and Australia newer destinations include; Ireland, Italy, Norway and Portugal (5).

Notwithstanding the sheer numbers, the rapid momentum, the scale and extent of migration will undoubtedly affect health in complex ways. While the relationship between migration and health is undisputed the evidence remains scarce due to the limited data on the health of migrants in most European countries (6, 7). Migrants have either been excluded from most studies or routinely collected data. For migrants with an illegal status it is difficult to ascertain their health situation.

Consequences of Migration on Health

Migration is synonymous with transition and might entail enormous changes. This could involve moving from low or middle income country to an industrialized country, from rural to urban areas, often rapidly in the course of a few hours or days (2). However the changes are far from unidirectional being positive and/or negative. Immigrants are often '*Obliged to come to terms with the new cultures they inhabit*' while bearing upon themselves the traces of the particular cultures, traditions, languages and histories by which they were shaped. Migrants are irrevocably the product of several interlocking histories and hybrid cultures and have had to renounce the dream of ethnic absolutism.

Immigrants from low and middle income countries are likely to find themselves caught between phases of the demographic, epidemiological and nutritional transition thus moving from areas of higher fertility and mortality, higher prevalence's of infectious diseases and under nutrition to higher prevalence's of chronic diseases (8). In some ways their move accelerates these transitions that may have already started in the home countries and are close to completion in the host countries. Thus the risk for disease could change with migration as does the prevalence for diseases in particular for conditions influenced by the gene-environmental interaction (2).

The health of migrants is influenced by their pre migration socio-economic and ethnic backgrounds, health status and history, the quality and access to health care. Despite problems of bias and the difficulties of making comparable measurements, studies of migration can be a powerful means

of generating and testing hypotheses (6). When migrants and their offspring are compared with other groups, changing socio-economic circumstances within and between generations in different migrant and ethnic groups can be linked to changing health patterns (9). This perspective suggests that health of adults might be related to exposures that they have been exposed to across their life course (10). The circumstances of migration and the social and health characteristics of resettlement are also key determinants of health (11). Post migration determinants of health include the type of work migrants are expected to perform in the host country, the physical and housing conditions available to them, their language skills, remaining in contact with family, acquiring a new social network and their access to health and social services (12).

The Oslo Immigrant Health Study documents the health of migrants in Norway at the population level for the first time and indicates that health of immigrant groups differs greatly compared to Norwegians and even more so with each other (13). Only 30 % of immigrant women from Pakistan and Turkey in the 59/60 year age group reported good health (13). In all ethnic groups those with the highest education reported good health more frequently than others. Women reported more musculoskeletal disorders than men. However, men had higher proportions of myocardial infarction and stroke. The poor health of immigrants is also reflected in their frequent use of health services. In the Oslo Immigrant Health Study immigrants made a greater number of visits to the general practitioner (GP) and specialists compared to Norwegians. Turkish and Iranians visited the psychiatrist/psychologist most frequently. Emergency services were used most frequently by those from Turkey and least by the Norwegians (13).

While physical changes are apparent and easier to document, psychosocial changes are harder to visualize as they are subtler in nature. These are related to a loss of family and kin, friends, social network and local milieu, cultural identity and professional status, and loss of familiar inability to comprehend societal norms; all contributing to an increased stress level (14, 15, 16). In the Oslo Immigrant Health Study women reported more mental distress than men with more than 40 % of women from Turkey and Iran reporting distress (13). Among the immigrant groups, Sri Lankans had the lowest score, with women in the same range as Norwegian women. In all ethnic groups, except immigrants from Pakistan and Sri Lanka, mental distress decreased with increasing education (13). Migration is often replete with the fear of the unknown, anxiety about family left behind and a sense of impending loss and this has been termed by some as a type of cultural death. For irregular migrants' financial burdens, exploitation and abuse

magnify their fears and anxiety and further increase their sense of isolation. An irregular migrant in Oslo articulated this in one sentence 'I am always worried' (17).

Chronic anxiety, homesickness and isolation besides impeding psychosocial well being lead to depression as well as disorders such as stress related ulcers, migraines and disabling back pain (8). This illustrates the complex relationship between physical and mental health confounded by differences in the beliefs surrounding illness and disease. High rates of suicide and attempted suicide among migrants in EU countries are linked with high rates of depression, in particular among women, second generation immigrants and those unemployed (6,18).

Children of migrants are often caught at the crossroads between the majority (host) and minority (immigrant) cultures. Ethnic adolescents therefore land in double jeopardy with persisting unhealthy habits from their minority cultures and acquiring unhealthy habits from the majority well. This is well illustrated in the case of boys from the Indian subcontinent in Oslo with high consumption of both full fat milk and cola/soft drinks (19). Often the ability of children of migrants to adapt and adopt the host language and culture creates a perceived gap between them and their parents. Their immigrant parents fear that they are distancing themselves from their native values and behavioural patterns. The intra familial stress and parent-child conflicts may be precursors to low self esteem, feelings of guilt and psychosocial morbidity among children of migrants (12).

People move to cities both from rural areas in their home countries and to and other parts of the globe. Urbanisation is a phenomenon often associated with lifestyle changes such as energy rich diets far exceeding caloric requirements coupled with physical inactivity, increased levels of smoking and alcohol and stress (20,21). Migration studies that have compared migrant Indians in the UK and USA with those living in India conclude migrant Indians have higher mean Cholesterol, triglycerides and Body Mass Index (22, 23).

The Oslo immigrant health study observed that immigrant men consumed more soft drinks than women, the highest consumption was observed among Turkish men. The consumption of full-fat milk was higher in men than women, the highest consumption was observed among Pakistanis and the lowest in Norwegians. Immigrants were more inactive, compared to Norwegians. Among the immigrant groups, women were more inactive than men. In Norwegians, men were slightly more inactive than women. Smoking habits varied enormously across the immigrant groups. Generally, men smoked more than women, except among Norwegians where women

smoked the most. Most smokers were observed among Turkish and Iranian men (53 and 42 %), while fewest smokers were observed among Sri Lankan women (0 %), Vietnamese and Pakistani women (4 %), and Sri Lankan men (19 %). Norwegians had the highest alcohol consumption. Over 90 % of the women from Turkey, Sri Lanka and Pakistan consumed no alcohol, or less than once a month. Pakistani men's consumption was low and similar to that of Pakistani women, whereas the consumption was higher in men from Sri Lanka, Vietnam, Iran and Turkey. However, all the immigrant men reported a much lower consumption of alcohol than Norwegian men (13).

Migration provides a naturally occurring experiment, which may establish the aetiological importance of factors acting at different points in the life course (10). An advantage of studying immigrants and their offspring is that changes in lifestyle after migration might be easier to capture and contrast. If the risk of cardio vascular disease increases among migrants from low risk to high risk areas, it is highly probable that factors are acting later on life. However, if the risk of the country of origin is retained then it likely that genetic factors exert a greater influence. According to Forsdahl, migrants exposed to relative deprivation in childhood encountering abundance in adult life face an even greater risk of Coronary Heart Disease than the host population (24), as might be expected in the case of a large majority of immigrants born in developing countries.

There is increasing evidence that chronic disease risks begin in fetal life and continue into old age (25-29). Adult chronic disease, therefore, reflects cumulative differential lifetime exposures to damaging physical and social environments. The known risk factors are now recognized as being amenable to alleviation throughout life, even into old age. The continuity, as well as a host of other factors ranging from the microscopic environment of the gene to macroscopic urban and rural environments plays a role in the development of chronic disease. Both retarded growth and excessive weight or height gain ("crossing the centiles") can be factors in later incidence of chronic disease. An association between low growth in early infancy (low weight at year one) and an increased risk of coronary heart disease (CHD) has been described, irrespective of size at birth (29). Blood pressure has been found to be highest in those with retarded fetal growth and greater weight gain in infancy (29). Short stature, a reflection of socio-economic deprivation particularly nutrition in childhood (30), is also associated with an increased risk of CHD and stroke, and to some extent, diabetes (31, 32).

Increased birth weight increases the risk of obesity later, whereas children with low birth weight tend to remain small into adulthood provided there

are no changes in the environment (31). In industrialized countries there have been only modest increases in birth weight, so the increased levels of obesity must reflect environmental changes (31,33). General obesity is a challenge for Turkish and Pakistani women in Oslo, as around 50 % were obese (Body Mass Index >30). This was far higher than any of the other ethnic/gender groups. On the other side of the spectrum we found Vietnamese men and women with almost no obesity (3-4 %). Among all immigrant groups general obesity was more frequent in women than in men, but the opposite was seen in Norwegians. Abdominal obesity (Waist Hip Ratio >1 for men and >0.9 for women) was most frequently seen in women from Sri Lanka and Pakistan, which fits with their higher prevalence of diabetes (13). Greater proportions of those with high blood pressure were observed among Norwegians and lowest among those from Iran. The favourable HDL (high density lipid) cholesterol levels were highest in Norwegians but lowest in Pakistanis and Sri Lankans. In addition, triglyceride levels were highest among immigrants from Pakistan and Sri Lanka and lowest among Norwegians. Sri Lankans in Oslo had favourable lipid profiles and blood pressure despite being more obese than a native group in Sri Lanka (34).

Ethnic differences in susceptibility to risk factors require a greater understanding of the gene- environmental interactions. Immigrants from low and middle income countries living in European urban environments are often trapped between their own traditional lifestyles and practices and those of the host country. This can increase their risk for chronic diseases and they could be pushed down the morbidity and mortality spiral. Therefore the health priorities and needs of immigrants need to be prioritized in national health policies and laws. Evidence generated and documented to warrant this prioritization.

In Norway as in many other European countries the lack of longitudinal studies limits capturing the historical and time perspectives of the migratory process of migrants from low and middle income countries. The Oslo Immigrant Health Study being a cross sectional study does not address this important issue.

Conclusion

Despite varying needs of countries and perceptions surrounding migration it is undoubtedly an integral part of the global social and economic development. Health and migration has been neglected to a large extent both by receiving and sending countries except in the case of refugees and in conflict situations. Countries have not been able to respond to the rapid

pace of current migration and acknowledging the needs and concerns of migrants to some extent entails recognition of liability and responsibility. The myth that migration ultimately succeeds has lulled authorities into complacency, whereas evidence indicates massive human wastage in terms of avoidable illness, injury neglect and mortality.

The 'ecological space' travelled by migrants' today increases the complexities surrounding health. Be it the preparedness of post industrial countries to cope with infectious diseases, the increased load on health services by newcomers, the worsening of health of migrants as a result of limited access, or occupational diseases and injuries in – the framework of labor migration, policies or lack of policies that fail to take into account these dimensions contribute to increasing the financial and social costs to both migrants and host countries.

Besides recognizing the need for better planning and management of migration and its health dimensions it is critical that countries respond to these challenges. The response must include concrete measures suitably adapted to meet the needs of migrants. This does not imply a parallel health system for migrants as it is both a waste of resources and unsustainable. Failure to respond to the emerging realities of poor health and disease of migrants in a timely and adequate manner could prove to be myopic from a political, economic and social perspective by all concerned.

Literature

1. Castles S, Miller M. *The Age of Migration*. 2nd ed. Hampshire: Palgrave Macmillan, 1998.
2. Kumar BN, Viken B. red. *Folkehelse i et migrasjonsperspektiv*. Bergen: Fagbokforlaget, 2010.
3. Siem H. Migration and health-the international perspective. *Praxis (Bern 1994).* 1997;86:788-93.
4. Siem H. Migrasjonsprosesser og folkehelse. I: Kumar BN, Viken B red. *Folkehelse i et migrasjonsperspektiv*. Bergen: Fagbokforlaget, 2010. s. 20.
5. International Organization for Migration. *World Migration Report 2010 – the future of migration: Building capacities for change.* Geneva: IOM, 2010.
6. Carballo M, Mboup M. *International Migration and Health*: *A Paper Prepared for the Policy Analysis and Research Programme of the Global Commission on International Migration*. Geneva: Global Commission on International Migration, 2005.
7. Carballo M, Divino JJ, Zeric D. Migration and health in the European Union. *Trop Med Int Health* 1998;3:936-944.
8. Popkin BM. The nutrition transition: an overview of world patterns of change. *Nutr Rev*. 2004;62:140-3.
9. Macbeth H, Shetty PS. *Health and ethnicity*. London: Taylor & Francis, 2001.

10. Ben-Shlomo Y, Kuh D. *A Life Course Approach to Chronic Disease Epidemiology*. 2nd ed. New York: Oxford University Press; 2004.
11. Wolffers I, Verghis S, Marin M. Migration, human rights, and health. *Lancet*. 2003;362:2019-20.
12. Carballo M, Smajkic A, Zeric D, Dzidowska M, Gebre-Medhin J, Van Halem, J. Mental health and coping in a war situation: the case of Bosnia and Herzegovina. *J Biosoc Sci*. 2004;36:463-77.
13. Kumar BN, Grøtvedt L, Meyer HE, Sogaard AJ, Strand BH. *The Oslo Immigrant Health Profile.* Oslo: Nasjonalt folkehelseinstitutt, 2008. 2008;7.
14. Thapa SB, Hauff E. Gender differences in factors associated with psychological distress among immigrants from low- and middle-income countries-findings from the Oslo Health Study. *Soc Psychiatry Psychiatr Epidemiol* 2005;40:78-84.
15. Hauff E, Vaglum P. Establishing social contact in exile: a prospective community cohort study of Vietnamese refugees in Norway. *Soc Psychiatry Psychiatr Epidemiol* 1997;32:408-15.
16. Dalgard OS. Immigration and health *Tidsskr Nor Laegeforen* 1993;113:2073.
17. Hjelde HK. *Jeg er alltid bekymret*. Oslo: NAKMI, 2010. NAKMIs skriftserie 2010:1.
18. Karmi G. The ethnic health bibliography. *J Public Health Med* 1995;17:116.
19. Kumar BN, Holmboe-Ottesen G, Lien N, Wandel M. Ethnic differences in body mass index and associated factors of adolescents from minorities in Oslo, Norway: a cross-sectional study. *Public Health Nutr*. 2004;7:999-1008.
20. Popkin BM. Dynamics of the nutrition transition and its implications for the developing world. *Forum Nutr* 2003;56:262-4.
21. Wandel M. Nutrition-related diseases and dietary change among Third World immigrants in northern Europe. *Nutr Health* 1993;9:117-33.
22. Patel JV, Vyas A, Cruickshank JK, Prabhakaran D, Hughes E, Reddy KS, et al. Impact of migration on coronary heart disease risk factors: Comparison of Gujaratis in Britain and their contemporaries in villages of origin in India. *Atherosclerosis* 2006;185:297-306.
23. Hoogeveen RC, Gambhir JK, Gambhir DS, Kimball KT, Ghazzaly K, Gaubatz JW, et al. Evaluation of Lp (a) And other independent risk factors in CHD in Asian Indians and their USA counterparts. *J Lipid Res* 2001;42:631-8.
24. Forsdahl A. Are poor living conditions in childhood and adolescence an important risk factor for arteriosclerotic heart disease. *Br J Prev Soc Med* 1977;31:91-5.
25. Godfrey KM, Barker DJ. Fetal programming and adult health. *Public Health Nutr* 2001;4:611-24.
26. Eriksson J. et al. Size at birth, childhood growth and obesity in adult life. *Int J Obes Relat Metab Disord* 2001;25:735-40.
27. Davey Smith G, et al. Birth weight of offspring and mortality in the Renfrew and Paisley study: prospective observational study. *BMJ.* 1997;315:1189-93.
28. Barker DJ. A new model for the origins of chronic disease. *Med Health Care Philos* 2001;4:31-5.
29. Barker DJ, Winter PD, Osmond C, Margetts B, Simmonds SJ. Weight in infancy and death from ischaemic heart disease. *Lancet* 1989;2:577-80.

30. Gunnell DJ, Davey Smith G, Frankel S, Nanchahal K, Braddon FE, Pemberton J, et al. Childhood leg length and adult mortality: follow up of the Carnegie (Boyd Orr) Survey of Diet and Health in Pre-war Britain. *J Epidemiol Community Health*.1998;52:142-52.

31. Marmot, MG. Early life and adult disorder: research themes. *Br Med Bull* 1997;53:3-9.

32. Marmot MG, Bosma H, Hemingway H, Brunner E, Stansfeld S. Contribution of job control and other risk factors to social variations in coronary heart disease incidence. *Lancet* 1997;350:235-9.

33. Strauss RS. Adult functional outcome of those born small for gestational age: twenty-six-year follow-up of the 1970 British Birth Cohort. *JAMA* 2000;28:625-32.

34. Tennakoon SU, Kumar BN, Nugegoda DB, Meyer HE. Comparison of cardiovascular risk factors between Sri Lankans living in Kandy and Oslo. *BMC Public Health* 2010;10:654.

Bernadette Nirmal Kumar
Norwegian Centre for Minority Health Research
Oslo University Hospital
Department of Community Medicine
Institute for Health and Society University of Oslo
Bernadette.kumar@nakmi.no