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Rural-urban migration and health: Evidence from longitudinal data in Indonesia☆

Yao Lu*

Department of Sociology, Columbia University, 606 West 122nd street, New York, NY 10027, United States

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ABSTRACT

Previous studies on the impact of migration on health often face the difficulties of choosing the proper comparison group and addressing potential selection of migration. Using longitudinal data for 1997 and 2000 from Indonesia, this paper examines the effect of rural-urban migration on physical and psychological health, by (1) comparing the health of migrants with that of the appropriate group of comparison, people who remained in rural origins, and (2) studying health both prior to and after migration to adjust for possible selection bias. The research further explores various socioeconomic, psychosocial, and behavioral pathways mediating the migration effect. Results show that rural-urban labor migration increased the risk of psychological disorder as measured by depressive symptoms. This was largely a result of reduced social support due to family disruption, because the deleterious effect was particularly strong for migrants who moved alone and was negligible for migrants moving with family members. In contrast, migration had little impact on physical health in the medium term. This was largely attributed to the multiple offsetting influences of migration: migration improved economic status and living standards but led to increased work-related stressors and barriers to health utilization. In addition, despite earning higher income, migrants tend to underconsume and remit a large amount of earnings to original families, which hindered potential health gains from improved economic well-being.

Introduction

The potential health consequences of rural-urban migration have not been well understood. This is in contrast to increasing attention to the health implications of growing immigration to the developed world. Accumulating evidence suggests that, despite immigrants' socioeconomic disadvantages that are thought to compromise health status, they are generally healthier than the native-born population as indicated by mortality rates and various dimensions of physical and mental health (Hayward & Heron, 1999; Marmot, Adelstein, & Bulusu, 1984; Singh & Siahpush, 2001; Williams & Collins, 1995). This pattern is particularly true in the U.S., though a few exceptions have been documented in other developed societies (Newbold & Danforth, 2003; Sungurova, Johansson, & Sundquist, 2006).

The prevailing explanation for the better health profile of immigrants is the "healthy migrant hypothesis", which states that migrants represent a selectively healthier group than the average sending and receiving population (Palloni & Morenoff, 2001). Because most existing data come from the destinations and are gathered after migration, earlier research could not test this hypothesis, and thus could not disentangle the impact of migration from possible health selection of migration. Instead, previous work has focused on comparing immigrants of varying durations of stay. Such studies usually present a detrimental impact of migration assimilation, as the health advantage enjoyed by immigrants tends to deteriorate over time (Abraído-Lanza, Chao, & Flórez, 2005; Landale, Oropesa, & Gorman, 2000).

Towards a more complete understanding of the health consequences of migration, it is crucial to study within-country movement. Fuelled by increased urbanization in many developing settings, internal migration, in particular that from rural to urban areas, occurs at an even more unprecedented scale than international migration (International Organization for Migration, 2005). However, the scholarly work on internal migration and health is very scarce. It concentrates almost exclusively on child survival and produces mixed findings. For instance, Brockerhoff (1995) finds that across several developing countries, children of urban migrants experience higher risk of mortality than those of urban residents. This is in opposite to what is documented by Ssengonzi, De Jong, and Stokes (2002) in Africa.

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* Tel.: +1 212 854 5442.
E-mail address: yl2479@columbia.edu

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Challenges of studying the health consequences of migration

The study of the migration effect poses several difficulties (Bilsborrow, Oberai, & Standing, 1984; Jasso, Massey, Rosenzweig, & Smith, 2004). First, it is not straightforward to conceptualize the appropriate group for comparison because the movement involves both the origin and the destination. Earlier studies largely concentrate on comparisons between migrants and the population at destination, of which data are readily available. Nevertheless, the native population is not the proper counterfactual, as it conflates the effect of migration with the long-standing socioeconomic and health disparities between the often poor sending regions and the more developed receiving regions (Benatar, 1998). Such a comparison tends to overstate the plight of migrants while neglecting potential benefits of moving from poor to better environments. The more appropriate approach is to contrast the situation of migrants to the benchmark —their situation had they stayed in the origin. This can be accomplished by comparing migrants with "similar" people who had stayed in sending regions.

Second, migration studies are further complicated by potential migration selection, not only on demographic and socioeconomic characteristics but on health and other personal attributes. Failure to adjust for potential migration selection likely leads to biased results. In such situations, the observed effect is not necessarily evidence of a migration effect, but may arise from the selective feature of migrants on attributes that also affect health status. Because migrants are often favorably selected, one may incorrectly conclude with a positive migration effect if failing to control for pre-existing differences between migrants and non-migrants. A few studies explicitly test this "healthy migrant effect" and lend some support to this view (Lu, 2008; Rubalcava, Teruel, Thomas, & Goldman, 2008). This highlights the need to take account of potential selection when studying the health effect of migration. One approach is to adjust for migrants' pre-existing circumstances prior to migration through the use of longitudinal data.

The approach and the study setting

Facilitated by high-quality longitudinal data from the Indonesian Family Life Survey (IFLS), which traced migrants from origin to destination places, the present study simultaneously addresses the two difficulties discussed above. This is accomplished by comparing the health of migrants with that of people who remained at the origins, while adjusting for health status prior to migration. Because the effect of migration is necessarily *multifaceted and* tends to operate through a complexity of mechanisms, this study examines multiple aspects of health and assesses how various socioeconomic, psychosocial, and behavioral factors may mediate the migration effect. Given the great heterogeneity of migrants, the focus is placed on rural-to-urban labor migration, which involves a significant life change and sparks the most theoretical contention in the internal migration literature. It is also the stream that most resembles international migration to developed countries given the similar driving forces and dynamics (Pryor, 1981).

Indonesia, the fourth most populous nation in the world, is drawn on as a case study. The country has enjoyed rapid economic growth over the past three decades, along with concomitant improvements in health care and common measures of health such as life expectancy and infant mortality (Frankenberg & Thomas, 2001). In addition to government sources of care at hospitals, health centers, and village level *posyandus* (health centers for children and mothers), various sources of private health care coexist. The distribution of health facilities varies in rural and urban areas (Brotowasisto, Malik, & Sudharto, 1988): government hospitals are located in district capitals, limiting their access to rural residents, who instead rely on health centers and *posyandus* as the basic source of primary care; private services are also more accessible in urban than in rural areas.

Important for the purpose of this study, Indonesia has rapidly urbanized, exceeding many other developing countries (United Nations, 2002), and is recognized as one of the world's major sources of unskilled migrant workers (Hugo, 2002). In the most recent census, one in ten Indonesians was classified as a migrant, roughly 23 million people. This stream is largely characterized by rural to urban and economically motivated migration, with the largest cities such as Jakarta, Surabaya, and Makassar as the main destinations. In comparison, the scale of international migration is relatively small, with about 2.5 million Indonesians working overseas.

Analytic framework

Migration tends to have multiple impacts on different aspects of health, hurting in some respects and helping in others. The impact and mediating pathways are summarized in Fig. 1. The impact of migration on psychological health tends to be detrimental and immediate as a result of the family separation due to migration (Sluzki, 1992). This disruption of family life likely leads to reduced size and level of social support, which costs migrants of their emotional well-being. This is consistent with the well-documented role of social support for health, which not only can have a direct and positive effect but can buffer the detrimental influences of various life stressors (Cohen & Wills, 1985).

The impact of migration on physical health tends to be less immediate, as it is channeled through changes in living circumstances and behaviors in the course of migration and settlement. One of the most noticeable changes associated with labor migration is the economic benefits and subsequent improvement in living standards, as people typically migrate to attain better economic conditions. Such changes are usually conducive to health status. In addition, as a result of continued concentration of public health resources in urban areas, cities are generally equipped with better health infrastructures with greater availability than villages. This aspect of urban life can provide migrants with better health care services and may have positive implications for health.

However, the improved economics do not necessarily lead to improved use of health services. Health care system and resources can be complicated to navigate. A common scenario is that migrants may be less well informed about how much local health service is available, or how to access it (Newbold, 2005). It may take a fair amount of time for them to adjust to the new environment and begin using urban services effectively. The extent to which migrants make better use of health services also depends on their investment behavior. Potential improvements may be hindered if migrants curtail spending at the destination in order to send large remittances back to families at origin.

In addition, migrants often face increased life and work-related stressors and unfavorable working environments, as they have to cope with new conditions and are over-represented in labor-intensive jobs (Walsh & Walsh, 1987). The elevated stress tends to put migrants at higher risks for stress-related health deficits. Lastly, migrants are also exposed to different social and cultural contexts that may compel them to adjust to new perceptions, lifestyle, and behaviors, which can either be beneficial or disruptive (Lindstrom & Muñoz-Francoa, 2006).

On these grounds, I expect to observe a deleterious impact of migration on psychological health. As for physical health, the effect of migration is not clear, which should be understood as the consequence of the offsetting mechanisms mentioned above. To