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Original Article

Income-related health inequality of migrant workers in China and its decomposition: An analysis based on the 2012 China Labor-force Dynamics Survey data

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Abstract

Background: Although migrant workers are a vulnerable group in China, they demonstrably contribute to the country's economic growth and prosperity. This study aimed to describe and assess the inequality of migrant worker health in China and its association with socioeconomic determinants.

Methods: The data utilized in this study were obtained from the 2012 China Labor-force Dynamics Survey conducted in 29 Chinese provinces. This study converted the self-rated health of these migrant workers into a general cardinal ill-health score. Determinants associated with migrant worker health included but were not limited to age, marital status, income, and education, among other factors. Concentration index, concentration curve, and decomposition of the concentration index were employed to measure socioeconomic inequality in migrant workers' health.

Results: Prorich inequality was found in the health of migrant workers. The concentration index was −0.0866, as a score indicator of ill health. Decomposition of the concentration index revealed that the factors most contributing to the observed inequality were income, followed by gender, age, marital status, and smoking history.

Conclusion: It is generally known that there is an unequal socioeconomic distribution of migrant worker health in China. In order to reduce the health inequality, the government should make a substantial effort to strengthen policy implementation in improving the income distribution for vulnerable groups. After this investigation, it is apparent that the findings we have made warrant further investigation.

Keywords: concentration index; income-related health inequality; inequality decomposition; migrant workers

1. Introduction

China has experienced noteworthy industrialization, urbanization, and economic growth over the past several decades, which is supplemented in part by the largest migrant population in the world.[1] As significant drivers of economic growth, migrant workers often serve as the labor force that fills certain jobs that other workers are reluctant to undertake.[2] In China, migrants are defined as a specific population under the household registration system, living in a place or engaging in various jobs, who are stranded across the country for more than 6 months and whose household registration is typically in a village.[3] Internal migration in China has increased dramatically in the past 25 years; there were approximately 30 million migrant workers in 1989, 62 million in 1993, 132 million in 2006, 221 million in 2011, and 245 million by the end of 2013.[4−6] These figures show that more than one in six people are classified as migrant workers in China, and this large migrant population continues to grow.

Conflicts of interest: The authors declare that they have no conflicts of interest related to the subject matter or materials discussed in this article.

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However, recent information from different sources suggests that the entire process of migration has an effect on worker health outcomes, a topic that has caught the attention of public health researchers.[7−9] Most of this research has indicated an increasing risk of poor health among China's migrant population compared with that among the general population.[10−12] In most countries, migrant workers can be found in agricultural, food processing, construction, and manufacturing jobs, or in low-wage service jobs. Thus, migrant workers are likely to experience more serious abuse and exploitation.[13−16] Additionally, migrants often suffer stressful incidents that may increase their vulnerability to health-related problems, increasing the health inequality of these workers.

The extent of health inequality is assessed to specify the differences, varieties, and disparities in health achievements of individuals and groups.[17] Reducing inequality has been widely considered a major aim of health care policies in China, becoming a growing concern among the public. However, overall, there is substantial health inequality within the Chinese population due to gender, educational, marital, and economic factors, especially in the vulnerable populations. Migrants are one of these vulnerable population groups in China. A study found different risk factors of unhealthy lifestyle score in male and female rural-to-urban migrants, especially in some cities where they experienced salary, marital status, and workplace scale.[18] Workforce health inequity was found in another study, particularly with respect to the quality and geographic distribution of health care.[19] Lin et al[20] found that status-based discrimination and inequity had been related to the process of migration, especially with economics-driven internal migration.

Migrant workers are a special phenomenon in the process of China's economic transformation. The household registration system categorizes them as temporary residents within existing cities, immediately putting them in a vulnerable state. In China, internal migration usually occurs without a change of *hukou* (household registration) status. To a certain degree, *hukou* status is related to a person's employment, medical insurance, housing allowance, social welfare, and education within the registration area.[21] Therefore, internal migrants are often regarded as "vulnerable individuals" in some cities.[22] Owing to the household registration system, migrants are usually unable to participate in local public health services and medical insurance plans.[23] Migrants generally tend to live in poor conditions and work in highly dense environments.[23−25] Since the late 1990s, research on health issues affecting internal migrants has proliferated. However, almost all these studies focused on the physical or mental health, whereas only a handful of studies have explored the health inequality of migrant workers in China.[26]

The concept of health inequality connotes both pure and socioeconomic inequalities in health. For the purpose of quantification, there are many ways to measure health inequality. Among them, the Lorenz curve and the Gini coefficient are used to measure pure health inequality; the concentration curve and concentration index (CI) method can measure health inequality related to income. For instance, CI, concentration curve, and decomposition of the CI were adopted to measure socioeconomic inequality in maternal health service utilization.[17] In another study, inequality was determined by estimating each indicator's CI and establishing a geographic Gini index. For further assessment of the inequalities, the CI can be decomposed in order to analyze the determinants' contributions to the inequalities.[27]

The purpose of this study was to analyze the degree of income-related inequality of migrant workers and to decompose socioeconomic inequality into its determinants. These findings can be used to make recommendations to the Chinese government for promoting migrant workers' health in China.

2. Methods

2.1. Data and variables

The data utilized in this study were obtained from the China Labor-force Dynamics Survey 2012 conducted in 29 provinces of mainland China. This survey was nationally representative, multistage clustered, stratified, and Probability Proportionate to Size Sampling (PPS) sampled with a sample size of 16,253, with the individuals ranging in age from 16 years to 65 years. The total number of migrant workers in the dataset was 1122, including 1024 observations of information integrity and 98 individuals with any missing information (76 people due to lack of income variables, 15 arising from self-rated health, 6 due to the lack of sex, and 1 due to the lack of marital status). The methods were carried out in accordance with the approved guidelines.

We regarded self-rated health as a health outcome in this study. The determinants associated with migrant worker health included age, gender, ethnicity, marital status, income, education, medical insurance, occupational status, smoking history, drinking status, and social support.

For the purpose of this analysis, we used a subjective measure of health. Individuals were asked the question "how would you describe your current health?", and could rate their health status with the following answers: "very good (1)," "good (2)," "fair (3)," "bad (4)," or "very bad (5)."

Income is widely agreed to be associated with health, and the income referenced in this paper is the total annual income of 2011, including wage income and operating income. In order to reflect the nonlinear relationship between income and health, the annual income is taken as a logarithm, and the coefficient is used to detect the comprehensive effect of income on health.

Age was categorized into four levels: <25 years, 25−34 years, 35−44 years, and >44 years. Marital status was classified into two categories: "married" and "single." "Single" included people who were never married, currently divorced, or widowed at the time of the survey administration; "married" included people who were currently married. We distinguished three categories of occupational status: employee, employer, and nonworking individuals. Employee also contained farmers; employer referred to those employing