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ORIGINAL ARTICLE

Association between adverse mental health and an unhealthy lifestyle in rural-to-urban migrant workers in Shanghai

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Background/Purpose: The association between adverse mental health and unhealthy lifestyle behaviors in migrant workers remains poorly defined in Chinese rural-to-urban migrants.
Methods: A cross-sectional study was conducted regarding health-related behaviors in 5484 migrants (51.3% males) employed in Shanghai for at least 6 months. The Chinese version of the Symptom Checklist-90-Revised (SCL-90-R) was used to assess migrant mental health status. Logistic regression was applied to determine the contribution of adverse mental health to lifestyle behaviors.
Results: Of the 5484 migrants, 21.1% had potential mental health problems and 63.1% had an unhealthy lifestyle. The three most prevalent mental disorders were obsessions—compulsions (O—C; 13.7%; 751/5484), interpersonal sensitivity (I-S; 11.0%; 603/5484), and hostility (HOS; 10.8%; 590/5484). Compared with the male participants, the female participants exhibited significantly increased mean scores for phobic anxiety (PHOB) and anxiety (ANX) ($p < 0.001$). Logistic regression indicated that after adjustment for potential confounding factors in both genders, an unhealthy lifestyle score was significantly associated with all nine subscales of the SCL-90-R. The male participants with psychoticism [PSY; odds ratio (OR) = 4.908, 95% confidence interval (CI) 2.474—9.735], ANX (OR = 4.022, 95% CI 2.151—7.518), or depression (DEP; OR = 3.378, 95% CI 2.079—5.487) were the most likely to have an unhealthy lifestyle. In the female participants, an unhealthy lifestyle was most associated with HOS (OR = 2.868, 95% CI 2.155—3.819), PSY (OR = 2.783, 95% CI 1.870—4.141), or DEP (OR = 2.650, 95% CI 1.960—3.582).

Conclusion: Lifestyle behaviors were significantly associated with mental health in rural-to-urban migrant workers, and these findings indicate the need to develop targeted psychological interventions to foster healthy lifestyles in migrants.

Introduction

Chinese individuals who become migrant workers move from impoverished rural areas to thriving cities to seek better job opportunities and pursue dreams of a better life. These workers greatly contribute to the economic growth of developed regions. In 2014, the number of migrant workers in China reached 274 million and has subsequently continued to increase.[1] However, migrant workers face many challenges, such as economic pressures, work load, family separation, discrepancies between expectations and reality, and acculturative stress.[2] These challenges may influence their mental health. Studies regarding the health of Chinese rural-to-urban migrants have demonstrated that mental disorder is a substantial health problem.[3–5] Zhang et al[6] have demonstrated that the mental health of Chongqing migrant workers was significantly worse than the Chinese norm. A study by Hu et al[7] concluded that compared with permanent urban residents, rural-to-urban migrants in China had an increased prevalence of symptoms related to insomnia. Mental disorders are also associated with international migration; for example, migration from Mexico to the United States has been associated with a dramatic increase in psychiatric morbidity.[8]

Kirmayer et al[9] identified several migration-related factors that could influence mental health, such as the exposure to harsh living conditions, disruption of social support, and unemployment. Psychological factors may interfere with the ability to engage in healthy lifestyle behaviors, which are important determinants of disease and mortality and thus fundamental to public health. Bonnet et al[10] demonstrated that anxiety and depression were significantly associated with physical inactivity, an unhealthy diet, and smoking habits in patients at risk for cardiovascular disease. Piwoński et al[11] reported that individuals with depressive symptoms were characterized by unhealthy lifestyles compared with healthy individuals. However, to our knowledge, an association between mental health and healthy lifestyles in Chinese rural-to-urban migrant workers has not been previously investigated.

The aim of the current study was to determine whether there is an association between adverse mental health and unhealthy lifestyle behaviors in Chinese migrant workers. As migrants may suffer from various mental health problems, we utilized the Chinese version of the Symptom Checklist-90-Revised (SCL-90-R),[12] which comprised nine primary symptom dimensions. Multiple healthy behaviors of the migrants were simultaneously investigated, which were subsequently used to create a composite unhealthy behavior score that reflected the extent of the individuals' healthy behaviors.

Methods

Study population

The present assessment of mental health status and health-related lifestyle behaviors was conducted between August 2012 and October 2012, based on a previous cross-sectional study of migrant workers in Shanghai.[13] The inclusion criteria for the study population consisted of male or female migrant workers, 18–65 years of age, with at least 6 months of residency.

A multistage, proportionally stratified, cluster random sampling procedure was employed to recruit participants. The participants were recruited from four of the eight urban districts (Xuhui, Putuo, Changning, and Yangpu) and three of the eight rural districts (Pudong, Jiading, and Qingpu) in Shanghai. A community health service center was randomly selected in each of the seven districts, specifically, the Cao Hejing, Changzheng, Xinjing, Yinhang, Sanlin, Huangdu, and Huaxin community centers.

Among the service populations of the selected health service centers, cluster random sampling was conducted according to the size of the workplace. In large-scale workplaces ($\geq$ 500 employees), the migrants were cluster sampled according to the workgroup, and the number of migrants was $\leq$ 200. In moderate-scale workplaces (100–500 employees), the number of migrants was $\leq$ 150. In small-scale workplaces ($\leq$ 100 employees), all migrants were investigated. Furthermore, migrant workers were sampled from six occupations: (1) manufacturing; (2) construction; (3) hospitality; (4) domestic service; (5) small business; and (6) recreation/leisure. The number proportion of migrant workers was required to meet the occupation proportion based on the Shanghai government's statistics. Written informed consent was obtained from all volunteers.

The general practitioners and nurses were trained prior to the investigation; the training included the investigational procedure. Assistance was provided to the participants who had difficulty regarding the completion of the questionnaire (primarily because of limited years of education), and the questionnaires were reviewed after completion.

The Ethics Committee of Zhongshan Hospital of Fudan University, Shanghai, China approved the study protocol (B2013-138).

Assessment of variables

Mental health
Mental health was evaluated by a Chinese version of the SCL-90-R,[12] which is a self-report mental health