Influence of Social Support on Health-Related Quality of Life in New-Generation Migrant Workers in Eastern China

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Abstract

Background: The World Health Organization Quality of Life-BREF (WHOQOL-BREF) has generally been used for patients, few studies in migrants who move from rural to urban within one country. Many studies asserted that social isolation presents a risk to individual health. Poor social networks are associated with worse QOL. This study examined health-related quality of life (HRQOL) and social support in new-generation migrant workers and compared it with urban workers.

Methods: Nine hundred thirty new-generation migrant workers and 939 urban controls completed the WHOQOL-BREF questionnaire and Social Support Rating Scale (SSRS) by stratified sampling in 2011. Spearman's correlation was performed to clarify the relationship between social support and HRQOL in migrants. Multiple linear regression analyses were used to identify the variables that were associated with HRQOL.

Results: The general health, psychological health, and environmental scores of QOL in new-generation migrant workers were lower than in urban workers. New-generation migrants had poorer social support compared with urban controls with regard to general support, objective support, and support utilization. A positive correlation was found between social support and HRQOL. Workers with a higher level of education achieved better psychological, environmental, and general scores than workers with a primary education. Physical, social, environmental, and general health was also closely connected with the age factor. Physical health scores were higher in males than in females.

Conclusion: These data suggest that new-generation migrant workers have significant impairment in HRQOL and receive less social support. HRQOL may be affected by social support, education, age, and gender.

Keywords: Health-related quality of life, Social support, New-generation migrant workers

Introduction

Health-related quality of life (HRQOL) has become an important target in the medical area, including treatment outcome assessment, health economics evaluation, and assessing the effects of health education (1-3). HRQOL has been widely applied in epidemiological studies (4). However, it has rarely been used among migrant workers without specific illnesses. Many studies asserted that social isolation presents a risk to individual health (5, 6). Poor social networks are associated with

worse QOL (7-10). Furthermore, poor social support has been linked to higher mortality from almost every cause of death (11-14).

In China, with the rapid development of the economy and promotion of the integration between urban and rural areas, the number of migrant workers has rapidly increased. The migrant population already reached 221 million in 2010, based on the 2011 Report on China's Migrant Population Development (15), and 79% of them

were migrant workers. The coastal cities in Zhe-jiang province in eastern China have attracted a large number of migrant workers. Presently, the migrant population accounts for two-fifths of the total population. In some developed cities and towns, the migrant population was even more than the local registered population. With the passage of time and changes in national policy, the age structure of migrant workers, extrinsic motivation, and factors that affect employment appear to be increasingly different compared with the past, gradually forming two seemingly different groups: first-generation migrant workers and new-generation migrant workers. The name of new-generation migrant workers was firstly used in the Central Document No.1 issued by the State Council in 2010. Up to now there have not explicit definition of this concept; however there are some generally accepted characteristics such as they are not familiar with agriculture and eager to enter into urban society. They have the higher level of education, career expectations, material and spiritual requirements and lower work tolerance compared to the first-generation migrant workers (16). With social development, the proportion of new-generation migrant workers has increased annually, and their survival and development has become a major social problem.

Because household registration system and a series of institutional arrangements on the basis of the household registration system, migrant workers was been only economic absorbed, but were excluded by urban society in fact. They were marginal position in the city and their social network support changed greatly.

In this study, the whole health of migrant workers was assessed and whether social support affect health of migrant workers was analyzed by investigation.

Materials and Methods

Data were obtained by cross-sectional survey in 2011. The questionnaire was completed by every respondent independently. Assistance was provided by a co-researcher if a respondent requested or required help with the questionnaire. There are

about 10000000 new-generation migrant workers who aged 15-30 years old in Zhejiang province. We considered 0.01 percent of this population for our sample, which was calculated as 1000 individuals. Using a multistage stratified sampling method, at first, three stratifications were divided by economic level in Zhejiang Province (3, 4, 4 cities respectively). Almost all rural-urban migrants worked in the first and second stratification cities, so study was carried out in all the first stratification: Hangzhou, Ningbo and Wenzhou. Shaoxing and Taizhou were sampled randomly among the second stratification cities. In each city a list of work units where migrant workers gathered was drawn up. Some typical work units were selected such as shoe factory in Wenzhou, textile industry in Shaoxing.

For study purposes, new-generation migrant workers were defined as individuals who held rural household registration (hukou) and worked at an urban destination for over 3 months. The control group in this study comprised urban workers who were birth in city and held urban household registration. One thousand new-generation migrant workers and one thousand urban workers were drawn from the same work units in five cities. In each work unit, all of the workers present on the same day were recruited into the study. The valid number of questionnaires is 930 and 939 in two groups respectively and the average response rate reach 93.45%.

Measure of quality of life and social support

The World Health Organization Quality of Life-BREF (WHOQOL-BREF) was developed as a shortened version of the WHOQOL-100. The scale comprises 26 items that measure the following broad domains: physical health, psychological health, social relationships, and environmental area (4). The WHOQOL-BREF questionnaire was transformed into a 0-100 point scale according to the guidelines of the WHOQOL-BREF. A higher score indicates better QOL.

Social support has been evaluated using many methods, including qualitative and quantitative determinations. The Social Support Rating Scale (SSRS) was first reported by Xiao in 1994. Until

now, the SSRS has been used in many areas in China, including medicine, psychology, and sociology. The scale has been confirmed to have good reliability and validity and is appropriate for the Chinese population (17). The SSRS includes 10 items that measure the following broad domains: objective support, subjective support, and support utilization. The general support score is the total score from the three domains. A higher score represents more social support (17).

Statistical analysis

Statistical analyses were performed using SPSS version 17.0 software. The statistical analyses included the χ^2 test for sociodemographic characteristics and independent-samples *t*-tests for age, WHOQOL-BREF scores, and SSRS scores. Spearman's correlation was performed to identify the relationship between QOL and social support. Multiple linear regressions were performed to assess the impact of related variables.

Results

Sociodemographic characteristics

Data were obtained from 930 new-generation migrant workers and 939 urban workers. The work units where migrant workers gathered were such as manufacturing, food and domestic service, retail sector, construction industry, transportation and so on. Their sociodemographic characteristics are shown in Table 1. No significant differences in age were found between the groups. The ratio of males to females was higher in new-generation migrant workers. New-generation migrant workers were less well educated ($P < 0.001$) and more likely to be married or cohabiting than urban workers ($P < 0.001$). Migrant workers originated from 27 of the 31 Chinese provinces: 260 (28.0%) were from Zhejiang, and 482 (51.8%) were from poorer inland provinces, including Anhui, Sichuan, Henan, Guizhou, Jiangxi, Hunan, and Hubei.

Table 1: Sociodemographic characteristics of new-generation migrant workers and urban workers

Variable		Urban workers n (%)	New-generation migrant workers n (%)	*P* value
		939	930	
Age (years; mean ± standard deviation)		24.4 ± 3.2	24.4 ± 3.7	0.950
Gender	Male	426 (45.5)	479 (51.5)	0.010
Education	Primary school 7-12 years	32 (3.4)	72 (7.8)	< 0.001
	Middle school 13-15 years	219 (23.4)	435 (46.8)	
	High school/tertiary 16+ years	686 (73.2)	422 (45.4)	
Marital status	Single	542 (57.8)	450 (48.5)	< 0.001
	Married/cohabiting	376 (40.1)	466 (50.2)	
	Divorced/separated/widowed	20 (2.1)	12 (1.3)	

Quality of life and social support between the two groups

No significant differences in physical health or social relationships were found between new-generation migrant workers and urban workers. However, general health, psychological health, and environmental QOL scores in new-generation mi-grant workers were lower than in urban workers ($P < 0.05$ for each comparison; Table 2).

No significant differences in subjective support were found between the two groups. However, general support, objective support, and support utilization in new-generation migrant workers were lower than in urban workers ($P < 0.05$ for each comparison; Table 2).

Table 2: Distribution of WHOQOL-BREF scores in new-generation migrant workers and urban workers (mean ± standard deviation)

Variables	Urban workers	New-generation migrant workers	*P* value
WHOQOL-BREF			
General health	64.4 ± 9.0	62.8 ± 9.4	< 0.001
Physical health	68.2 ± 10.0	67.5 ± 11.2	0.156
Psychological health	64.0 ± 11.1	62.2 ± 10.7	< 0.001
Social relationship	65.2 ± 11.8	66.0 ± 13.1	0.178
Environmental area	60.3 ± 11.2	55.4 ± 12.4	< 0.001
Social support			
General support	39.4 ± 6.2	38.6 ± 6.5	0.006
Objective support	8.0 ± 2.5	7.7 ± 2.7	0.002
Subjective support	23. 9 ± 4.2	23.9 ± 4.4	0.854
Support utilization	7.5 ± 1.8	7.1± 1.8	< 0.001

Quality of life and influential factors in new-generation migrant workers

When the convergent validity between the WHOQOL-BREF and SSRS was analyzed, all correlation coefficients were significant. The WHOQOL-BREF domains were more associated with the SSRS's general and subjective domains, with mostly mode-rate correlations. The data are reported in Table 3. Multiple linear regression analyses were used to identify variables that were associated with HRQOL. No significant differences in general score and the four domains were found between different marital statuses. The QOL scores were related to social support, age, gender, and education in new-generation migrant workers. HRQOL was positively influenced by social support in each domain and general health. Psychological, environmental, and general scores were higher in individuals who had more education than in individuals who had only a primary education. Physical, social, environmental, and general health was also closely related to the age factor. Physical health scores were higher in males than in females (Table 4).

Table 3: Correlation coefficients among HRQOL and social support domains

WHOQOL-BREF	Social support			
	General	Objective	Subjective	Utilization
General health	0.311**	0.151**	0.298**	0.168**
Physical health	0.167**	0.145**	0.127**	0.080**
Psychological health	0.224**	0.103**	0.205**	0.152**
Social relationship	0.315**	0.139**	0.317**	0.153**
Environmental area	0.267**	0.092**	0.277**	0.147**

**P < 0.01

Discussion

The WHOQOL-BREF has generally been used for patients with various diseases (1, 18-19). Very few studies have used the WHOQOL-BREF in ordinary or healthy migrant workers to assess QOL who move from rural to urban within one country. The WHOQOL-BREF scale (Chinese version) has been confirmed to be appropriate for the Chinese population (18-20). This scale has good reliability and validity in measuring the QOL of migrant workers in China (21). Workers from the new-generation and urban groups had similar physical health and social relationship scores. This similarity might be attributable to the fact that the respondents included in this study had similar ages, worked in the same units, and had similar cultural backgrounds (Table 2).

Table 4: Variables associated with HRQOL, revealed by multiple linear regressions

Variable	General		Physical		Psychological		Social		Environmental	
	β	Beta	β	Beta	β	Beta	β	Beta	β	Beta
Constant	35.739		50.614		41.132		29.566		22.793	
Age	0.368***	0.145	0.242*	0.080	0.214	0.074	0.525***	0.148	0.473***	0.141
Gender (control = male)	-0.969	-0.052	-1.625*	-0.072	-1.300	-0.061	-0.377	-0.014	-0.438	-0.018
Education (control = primary school)										
Middle school	1.686	0.090	1.147	0.051	2.337	0.109	0.664	1.551	2.755	0.111
High school/tertiary	2.934**	0.156	1.182	0.052	3.618**	0.168	1.618	1.559	5.352***	0.215
Marital status (control = married/cohabiting)										
Single	0.594	0.032	0.287	0.013	1.164	0.054	-0.676	-0.026	1.580	0.064
Divorced/separated / widowed	-3.938	-0.046	-5.770	-0.056	-3.839	-0.039	-4.925	-0.041	-1.287	-0.011
General social support	0.443***	0.307	0.317***	0.184	0.375***	0.228	0.610***	0.302	0.446***	0.235

*$P < 0.05$, **$P < 0.01$, ***$P < 0.001$; β, unstandardized coefficients; Beta, standardized coefficients

Our results indicate that new-generation migrant workers have significant impairment in HRQOL compared with urban workers in the psychological and environmental domains and general health (Table 2). But similar study showed that on the SF-36 mental health scale rural-urban migrant workers in China had lower scores than rural residents but scored higher than urban residents (22). Compared the result of seven years ago (2011 vs. 2004), mental health of migrants might be lower and showing downward trend except for the sampling difference. Migrant workers leave the relatively comfortable and relaxed countryside to more competitive and compressed cities. They may live in unfamiliar surroundings that are distant from their rural homes. Workers with practical skills may experience difficulty adapting to their new position. What's more, they might experience more work-related stress such as inadequate rest due to overtime work and inadequate medical and social security coverage provided by the employers (23). In this study, the percent of work time longer than 8h per day was higher than urban controls (39.4% vs. 33.9%, $\chi^2=6.016$, $P=0.014$).

The present results revealed that the main factor that influenced HRQOL was social support. A positive correlation was found between the SSRS and HRQOL (Table 3), which was similar with other study (24, 25). The effect of social support ranked first in each domain and general health (Table 4). Social support is a function of social relationships provided by members within a social network, and social networks are generally related to the number of or contact frequency with family members, relatives, friends, and colleagues (26, 27). Previous studies reported that social support is directly associated with health outcomes and health behavior (27-29). Both availability and adequacy of social support for patients were found to be significantly related to QOL (30, 31). All sources of social support are beneficial to quality of life for the elderly (32). New-generation migrant workers have poorer social support compared with urban controls. With the exception of subjective scores, scores on the other two domains and general support were significantly different between migrant and urban workers. Migrant workers leave their rural homes to work in unfamiliar cities. Social relationships and networks that exist in the countryside are difficult to achieve in urban areas because of the distances and surroundings, leading to ever-decreasing social support. Another factor that may have contributed to the differences in psychological and enviro-nmental domain scores is education. The education of the migrant workers was lower than the urban controls. Educational level has a positive effect on health conditions (4). Literacy also positively affects QOL, together with other factors, such as life experiences, work opportunity, income, and living standard. The rate of achieving a high level of education in migrant workers was lower than in urban workers (Table 1). Well-educated migrant workers in this study had higher QOL scores, especially in the environmental and psychological domains and general health (Table 4).

Quality of life scores are also affected by age and gender (Table 4). A positive relationship was found between age and HRQOL, and this result may be different from other studies (33). The discrepancy may be attributable to the different age ranges. In the present study, the ages of the new-generation migrant workers were 15-30 years rather than the usual 15-65 years. Physical health scores in males were also higher than in females. Male migrant workers often engage in manual labor, such as construction and transportation, fields that require better health.

Limitations

Migrant workers scattered in various work units in China, it is very difficult to realize sampling randomly completely. We choose participants based on the labor-intensive industries where migrants gathered, so the kind of sampling might have biased our results. It is also difficult to establish cause and effect relationship between HRQOL and influential factors based on a cross sectional study. Other factors such as disease and sudden positive or negative events that were known as influencing factors on HRQOL, were not measured in this research. Therefore, although this study has a larger sample size, the results are not applicable to all aspects and could not be generalized to whole migrants in China.

Conclusions

The findings of this study highlight the difference of QOL and social support between the new-generation migrant workers and urban controls. This analysis provides additional evidence supporting the general health, psychological health, and environmental scores of HRQOL in new-generation migrant workers were lower than in urban workers. The data from this study demonstrate that new-generation migrant workers had poorer social support compared with urban controls with regard to general support, objective support, and support utilization. A positive correlation was found between social support and HRQOL, so one effective way to improve HRQOL of migrant workers is to promote urban integr-ation and enhance social support.

Ethical Consideration

Ethical issues (such as informed consent, co-authorship, misconduct, conflict of interest, plagiarism, double submission, etc) have been considered carefully by the authors.

Acknowledgments

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