Study on psychological health status and reflections of quasi-migrant in Danjiangkou reservoir area

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ABSTRACT

To study the psychological health status of quasi-migrant in Danjiangkou reservoir area. The stratified multi-stage cluster sampling method was used in this study. We also used the self-designed questionnaire of basic information and SCL-90 to investigate 575 quasi-migrants and 564 residents that don't move in Xichuan. 1. According to quasi-migrants and residents that don't move, the differences in gender, age and annual household income are statistically significant (P<0.05).2. According to the results of SCL-90, the positive rate of psychological problem was higher in quasi-migrants than that of residents that don't move(χ^2=5.263，P<0.05);3. Compared with those of immigrants that don't move, we found that the quasi-migrant got higher scores (except somatization and additional projects), and the differences are statistically significant (P<0.05); 4. The multiple linearity regression models is making with SCL-90 total score as dependent variable and 17 factors as independent variables, it reveals that factors influencing total stress-score included relocation areas, annual household income, the law and order situation, and culture degree（β＝-0.12579，2.91749，-1.33789，5.50881）. The mental health of quasi-migrant exists certain problems, so it needs to provide certain psychological intervention measures and build effective psychological counseling mechanism, in order to accomplish relocation.

Keywords: Danjiangkou reservoir area; Quasi-migrant; Psychological health
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INTRODUCTION

Danjiangkou reservoir resettlement project is the important part of North Water Transfer Project, which can greatly improve the ecological and investment environment in Water Supply Area and promote the development of economic in the central region. Since the implementation of the water diversion project, the process of diversion and immigration issue has been a hot issue of common concern to people across the country. Mental health is a kind of positive and lasting mental state, which is shown by a person's inner psychological unity and harmony as well as internal and external coherence. It is the basic guarantee for people engaged in social production and form an effective quality of social life and give full play to their potential. Mental health problem, which as a public health problem, has become the consensus of the current international community, mental health of the people in a country and the level of mental health services is one of the important signs measuring the degree of civilization of national stability. Therefore, this study used the Symptom Checklist (SCL-90), which has a nationally recognized high degree of reliability and validity, does research to Danjiangkou Reservoir on the migration of people and their places of origin who are not subject to the relocation and explores the mental health of North Water Transfer Project and its related issues, to provide an important basis for moving out.

EXPERIMENTAL SECTION

Subjects and methods

A   **Research object**   The subjects were Danjiangkou Reservoir in Henan Province Xichuan county and their places of origin without relocation, Which determined to be migrated to the relocation of the people while the survey has not been relocated residents of the reservoir will be relocated in April 2011; residents in their places of origin without relocation take the principle of proximity, The residents in adjacent or surrounding villages, These villages need not relocate because the water level in the reservoir is above the line. Inclusion criteria: 15 years and older, exclude deaf, mentally retarded, severe cardiovascular disease and mental illness, the residence time in local area is more than five years.

B   **Research Methods**   Using the basic questionnaire, symptom checklist with better reliability and validity, the trained graduate of Preventive Medicine and local medical staff conducted a questionnaire survey to the people to be immigrated and their places of origin who are not subject to the relocation . Using cluster sampling method, first, Random 3-5 towns where the people to be immigrated as the primary sampling units in accordance with the level of economic development,t hen, random the villages who are determined to immigrate as the secondary sampling units, conduct the questionnaire to all qualifying people who are determined to immigrate in selected villages residents in their places of origin without relocation take the principle of proximity, The residents in adjacent or surrounding villages.

C   **Statistical analysis**   Data entry using EPIDATA 3.0 software to build a database, take the double entry method to put the survey results into the database, and conduct consistency checks to ensure the accuracy of data entry. All of the data apply SPSS12.0 software for statistical analysis. For the needs of the the subject and the different nature of various indicators , Mainly used the methods of chi-square test, t test, statistical analysis of multiple linear regression. Significance level a equal 0.05.

D   **Quality Control**   at survey design stage, on the basis of careful study of the similar experimental design at home and abroad, combined with the actual situation of the survey, after much discussion, submit it to a number of experts to review, conduct pre-survey for the project of questionnaire and Improve the questionnaire. At investigation stage, investigators have to go through a unified training to master the skills and methods of investigation. At data compilation stage, use the consent procedures for dual entry, timely detect the abnormal data, which were compared with the original data and corrected.

RESULTS AND DISCUSSION

A   Sociodemographic characteristics comparision of the residents to be immigrated and indigenous residents who are not immigrate   This study distributed 1150 questionnaires, owing to the stringent quality control measures, 1139 copies of valid questionnaires were recovered, the effective questionnaires rate is 99.04%. Among them, there are 575 copies of the residents to be immigrated and 564 copies of indigenous residents who are not immigrate . . the people to be immigrated has 326 copies of male residents and 372 copies of female residents, indigenous residents, who are not immigrated has 326 copies of male residents and 192 copies of female residents, the average age of the people to be immigrated was (47.17±15.24) years old, while the mean age of the indigenous residents who are not immigrate was （50.41±14.57）years old. When compared with marital status, education level and occupation between the residents to be immigrated and indigenous residents who are not immigrate, the difference was not statistically significant (P> 0.05)

B   Comparison of detection rate of positive symptoms of psychological problems between the residents to be immigrated and indigenous residents who are not immigrate   According to SCL-90 score ≥ 160 conduct positive screening, 575 residents to be immigrated the positive detection rate in psychological problems was 3.7%,564 indigenous residents, who are not immigrated the positive detection rate in psychological problems was 0.8%, the difference between the them was statistically significant ($\chi2 = 5.263$, P <0.05). the residents to be immigrated detection rate of positive symptoms in psychological problems was significantly higher than indigenous residents who are not immigrate. See table 2.

Table 1   Comparison of basic situation of the residents to be immigrated and indigenous residents who are not immigrate（N（%））

indicator	Index classification	Under migration（n=575）	Local residents（n=564）	χ^2 value	*P* value
sex	male	326（56.7）	372（66.0）	10.29	0.002
	female	249（43.3）	192（34.0）		
age	15～	115（20.0）	84（14.9）	12.32	0.002
	35～	271（47.1）	241（42.8）		
	55～	189（32.9）	239（42.3）		
Marriage situation	married	501（87.1）	485（86.0）	0.32	0.574
	other	74（12.9）	79（14.0）		
Degree of education	Elementary school	314（54.6）	310（55.0）	0.51	0.918
	junior middle school	212（36.9）	211（37.4）		
	High school and higher education	49（8.5）	43（7.6）		
occupation	agriculture	523（91.0）	525（93.1）	1.76	0.185
	other	52（9.0）	39（6.9）		
Family income（yuan）	0～5000	307（53.4）	198（35.1）	38.82	0.000
	5000～10000	146（25.4）	192（34）		
	10000～	122（21.2）	174（30.9）		

Table 2 Comparison of detection rate of positive symptoms in psychological problems between the residents to be immigrated and indigenous residents who are not immigrate

	Total number	Number of positive symptoms	The positive detection rate	χ^2 value	*P* value
Under migration	575	21	3.7%	5.263	0.022
Local residents	564	5	0.8%		

C   Comparison of mental health status between the residents to be immigrated and indigenous residents who are not immigrate   Assessment results about the residents to be immigrated and indigenous residents who are not immigrate show: The residents to be immigrated in obsessive-compulsive, interpersonal-sensitivity, depression, anxiety, hostility, terror, paranoid, psychotic these factor score higher than indigenous residents who are not immigrate, The difference was statistically significant (P<0.05). There was no significant difference in somatization and additional items score between the residents to be immigrated and indigenous residents who are not immigrated (P>0.05).see table 3

Table 3 Comparison of SCL-90 scores and the factor between the residents to be immigrated and indigenous residents who are not immigrate($\bar{x}$ ±s)

factors	Under migration（n=575）	Local residents（n=564）	*T* value	*P* value
Somatization	1.32±0.45	1.29±0.35	0.995	0.320
Obsessive-compulsive symptoms	1.24±0.31	1.19±0.23	3.057	0.002
Interpersonal sensitivity	1.12±0.22	1.08±0.19	2.851	0.005
depression	1.15±0.26	1.09±0.19	3.723	0.000
anxiety	1.15±0.29	1.08±0.19	4.004	0.000
hostilty	1.15±0.25	1.10±0.21	2.944	0.003
horror	1.13±0.31	1.07±0.22	3.233	0.001
Paranoid	1.10±0.23	1.06±0.16	3.150	0.002
Psychotic	1.10±0.21	1.05±0.14	4.563	0.000
Additional projects	1.10±0.21	1.05±0.14	4.563	0.627
Total score	1.18±0.25	1.13±0.17	3.189	0.001

D   Multiple linear regression analysis of factors that affect mental health among the residents to be immigrated Using the SCL-90 score as the dependent variable, the investigated people's sex, age, marital status, education, occupation, income, knowledge of the relocation areas, understanding of the water diversion project, the satisfaction of the immigration policy, whether you want to move back to the local economy evaluation, evaluation of local transport, local security evaluation, the local educational evaluation, the local educational evaluation, evaluation of local climate, relations with neighbors, relations with the village cadres as the independent variable, If the variables were selected, then select the level of 0.05, if the variable were eliminaed, select the level of 0.10.text using stepwise method. The main research variable names and assignment is shown in table 3.

Table 4 multivariate linear regression analysis of the name of variables and the assignment table

variables	study factors	variable assignment
X1	sex	0=male 1=female
X2	age	Continuous variables
X3	Marital status	0=other 1=married
X4	Degree of education	0= illiterate 1= Primary school 2= junior middle school 3＝High school and higher education
X5	occuption	0=agriculture 1=other
X6	Annual household income	Continuous variables
X7	Understanding of the relocation area	0= do not understand; 1=understand
X8	Understanding of the water diversion project	0=do not understand 1= understand
X9	Understanding of immigration policy	0= Dissatisfied 1= satisfied
X10	Would you like to move back	0=want 1= don't know 2＝nill
X11	Local economic evaluation	0=good 1=common 2=bad
X12	Local trandportion evaluation	0=good 1=common 2=bad
X13	Local security evaluation	0=good 1=common 2=bad
X14	Local education evaluation	0=good 1=common 2=bad
X15	Local education evaluation	0=good 1=common 2=bad
X16	The relation with neighbors	0=good 1=common 2=bad
X17	The relation with village cadres	0=good 1=common 2=bad

Using SCL-90 score as the dependent variable, the 17 factors as variables to establish regression equation. Through multiple linear regression analysis, The variables involved in the model are the understanding degree of the relocation area, family   income, security, and   culture   degree.   From   the variance   inflation factor (VIF) and tolerance (Tolerance), we can see that the regression equation does not have linear. see table 5

Table 5 the multiple linear regression analysis results ofThe total influence factors of stress in the people to be immigrated

Variables	regression coefficient	standard error	standardized regression coefficient	t value	P	Tolerance	VIF
The constant term	31.66687	3.02412	0	10.471	0.0000		
Public security situation	-0.12579	0.04869	-0.08780	-2.583	0.0099	0.968	1.033
Understanding of the relocation area	2.91749	1.15581	0.08629	2.524	0.0118	0.961	1.041
Annual family income	-1.33789	0.50871	-0.08939	-2.630	0.0087	0.937	1.067
Degree of education	5.50881	1.07509	0.17655	5.124	0.0000	0.928	1.077

DISCUSSION

The migration of South to North Water Diversion immigration is a significant social changes, which reflects not only the population change   of geographical   significance,   but   more   important is   about a   strong psychological stereotypes which   formed   in   the   Long   term regional   cultural   accumulation, and   is   the social production mode, living habits,customs, traditions, social emotion and attitudes of people, values and a series of change of social science and psychological sense. the residents to be immigrated and indigenous residents have differences in gender, age and family income , and this difference has statistics significance. Gender differences between the residents to be immigrated and indigenous residents may be caused by the difference of migrant workers. Age difference may be because young people are in a period of psychological immaturity, their social environment change will have a huge psychological impact; While the elderly due to the gradual loss of self-care ability, more hope family harmony, concern and care. Therefore have a difference. In revenue terms, the residents to be immigrated account for a large proportion of low-income , may because they will lose their jobs or a large number of migrant workers return home, and therefore also have differences.

Assessment results about the residents to be immigrated and indigenous residents who are not immigrate show: The detection rate of psychological problems in immigrant groups was significantly higher than that indigenous residents who are not immigrate, that is to say   psychological problems in the residents to be immigrated is higher than indigenous residents who are not immigrate. Because the migration of South to North Water Diversion immigration belongs to   government intervention   rather   than   voluntary deed, and   the immigration   of non voluntary show   different   psychological concerns, such   as psychological   ,nostalgia psychology and psychological compensation [4]. Immigrants generally worried the standard of living will decline after removing, which reflected in housing, transportation, employment etc., They think they are deprived of social resources, and they are worried about the problem of security in resettlement and reconstruction work in the community.

The results of this study showed: the scores of SCL-90 factors in the residents to be immigrated   (excepts omatization and additional items) was significantly higher than that of the indigenous residents who are not

immigrate , this suggests the possibility to have psychological problems in the residents to be immigrated is more than the indigenous residents who are not immigrate, the level of mental health is obviously lower than the indigenous residents who are not immigrate. This result is consistent with prtudies. These show that the physical and mental health status. About The residents to be ievious smmigrated is not optimistic, and has a considerable number of residents appeared different degrees of mental health problems, Most of the immigrants have the problem of ideological pressure, whose psychological burden is heavier, and they have a variety of worry and anxiety and have no confidence in the future.

Using SCL-90 total score as the dependent variable conduct multivariate analysis ,through multiple linear regression analysis, the variables involved in the model has the understanding degree of the relocation area, household income, education level and the local law and order situation. This may be because they   take participated in the selection process of resettlement and have a better understanding of the placement, they may make some unreasonable demands and are not met, so they hold a   negative attitude. Changes in total household income shows that low-income immigrants lead to a   large fluctuations in the economy due to changes in the mode of production, life pressure make them be at a loss what to do, so they have negative attitudes towards the problem, And the high income immigrants have better economic source in the original residence, fter moving to a new home there are great changes in the economic sources,, thus appeared psychological gap, can not positively facing the life in a certain period of time .. immigrants are moving to a new area will have a certain gap if The local security situation is good . The lower educated immigrants tend to have a more anxious mentality of fear attitude to the unknown life ..

To sum up, we should increase the support of government, combine the resettlement with the poverty development, the government should actively provide conditions for the prosperity and stability of migrants and should actively seek the support policies of the State , Do a good job for immigrant employment training, increase relief efforts for vulnerable migrants, lead the immigrants to the rich road and resolve immigration worries. In addition, according to different symptoms of immigrants take necessary targeted psychological intervention, establish an effective mechanism for migrant psychological counseling, help immigrants to alleviate and eliminate thepressure, Can through talking, self-confidence, relaxing, transfer method] to achieve,   can also organize experienced psychiatrist and social worker counseling for migrants regularly, Help relieve psychological barriers and help immigrants integrate into life as soon as possible, last can successfully completed the relocation of migrants.

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