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Design and Testing of a Health Promotion Model to Promote

Use of Appropriate Health Services by Migrant Youth

——A Baseline Survey from Side of Supply

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PART I BACKGROUND

Since the reform and opening up in 1970s⁷, the scale of migrants is increasing greatly in China. It was showed that the size of migrants was up to 147 million in 2005, 75% of which was under junior middle school level, and 50% was employed as workers¹. It was also showed that the proportion of population aged 15 to 35 in this population was about 52%².

The floating persons always work with low payment, long hours and high occupational hazards because of their low educational levels and shortage of working skills. At the same time, their living conditions are poor and they are lack of health risks awareness. Therefore, they face disproportional high health risks of infectious diseases (HIV, TB, STIs etc), occupational diseases, reproductive problems and mental diseases^{3 4 5 6 7 8}. The study from other countries also showed the higher health risks in migrants than those in residents^{9 10 11}, such as mental diseases and infectious diseases. Further more, many research observed that the migrants would not utilize the health services when they needed since they had less health knowledge and awareness, low income and insurance coverage. A survey from Fengtai District, Beijing, indicated that 2 week morbidity rate was 198.7‰¹² in migrants aged 15-24, which was greatly higher than 49.7‰ that from National Health Survey (NHS) in 2008¹³.in the same age group. The same survey showed the sickness not visit rate was 44.0%¹², while it showed 38.2% (47.9% in urban, 35.6% in rural) in NHS in 2008¹³. Therefore, young migrants have great needs for health care services, but they utilize fewer services.

From the side of supply, providing health information and services for migrants still have some difficulties. With the size of migrants increasing, health sectors, population and family planning sectors, labor and social security sectors and public security sectors have kinds of branches and projects to serve the migrants. But the effectiveness are not obvious, especially their health situation. For example, a survey of health workers in Chengdu showed that there was not much willingness to provide health services. Though almost 70% of health workers had participated in the services provision, only 43.1% of them supplied the services regularly. All of them believed it is difficult to provide health services to migrants¹⁴. Lack of resources and mobility of migrants were the main causes¹⁵.

There are also some experiences from other countries, such as Community Partnership Model in U.S.A and four models of health education and services in Australia¹⁶. It is a trend to explore how to use community health services efficiently by migrants¹⁷.

Youth migrants are transferring from youth to adults and face disproportional health risks because of their poor experience in working and living. The special characteristics of this population require specifically tailored strategies. There are not many studies on health services provision to young migrants. Focusing on health problems of young migrants is embodiment not only of harmonious society, but also of rights protection of vulnerable population. Therefore, this project has important theoretical and practical value.

The MDG-F Youth, Employment and Migration Joint Programme has been established as a response to the Government of China's growing commitment to Protecting and Promoting the Rights of China's Vulnerable Young Migrants in the context of building a harmonious society. The Joint Programme was approved in January 2009, is funded by the Government of Spain, and is based on collaborative agreement between the United Nation County Team and their national government counterparts. One of the three outcomes of this Joint Programme is "Rights of vulnerable young migrants protected through improved access to social and labour protection ".To support this outcome, the Ministry of Health, WHO and UNFPA have decided to work together on designing and testing a health promotion model to promote the use of appropriate health services by migrant youth (output 3.3 of the Joint Programme). The results of the expert review, the present baseline survey and Tianjin and Shaanxi's own experience will help to develop an innovative approach that addresses the supply side through sensitization and capacity building of local partners.

PART II METHODOLOGY

1. Methods

1.1 In-depth interview

The leader of the local government, officers in health section, officers related to youth migrants' employment and management and key personnel to conduct health education and health services for migrants will be in-depth interviewed. The contents are mainly about the current situation of health services utilization by youth migrants, the health services provision by health sectors and the experiences, lessons, difficulties and future comments.

1.2 Focus group discussion (FGD)

To collect information as more as possible, health workers from community health service centers will be invited to the focus group discussion. The topics of the group discussion will focus on current services provided for migrants, environment of working, and resources of health education and health services.

An interview guideline will be developed by the researchers. It will be also improved based on pre-test and experts-consultation before using in the field.

1.3 Questionnaires for health sectors

A survey to Tianjin TEDA, Xian Xincheng District and Zhashui Bureaus of Health is carried to collect basic information, such as number of health services and personnel.

2. Subjectives

During the study, 37 persons were interviewed and 6 focus groups were organized, see

table 1.

Table 1 Number of interviewed person and focus groups

Methods	Sectors		Tianjin	Shaanxi		Total
				Xincheng	Zhashui	
In-depth interview	Government	Administrators&	0	1	1	2
		Health administrators	7	3	1	11
		Other department staff*	3	4	6	13
	Enterprises/ Technical College	Administrators	4	4	0	9
		Health Services	Doctors	0	1	2
Focus groups	Health services	Doctors	2*6	2*6	2*6	36
Total			26	25	22	73

& Such as mayor and other municipal corporation.

* Such as persons from Office of Migrants Administration, Bureau of Civil Affairs, Bureau of Labor and Social Security, Bureau of Population and Family Planning and Women's Federation.

PART III RESULTS

1. Health resources and health services in pilot areas

In pilot areas, health delivery system is generally sound, but there is a big gap between areas. In contrast, Xincheng district, as the main district of Xi'an, Shaanxi province, owns various health institutions; Zhashui County has a sound tertiary medical network, but takes disadvantage of inadequate health technical staffs; TEDA(Tianjin Economic-Technological Development Area), as a new industrial area, has adequate health professionals but its health network needs to be improved.(see table 2)

Table 2 Health capacity in pilot districts

Areas	Type of health institutions	Amount	Number of medical staff	Number of hospital beds
TEDA, Tianjin	district general hospital.	1	545	500
	district special hospital	1	385	500
	private hospital	6	130	120
	community health center	8	25	0
	district disease control and prevention center	1	34	—
Xincheng district, Xi'an, Shaanxi	general hospital	32	8563	4992
	traditional Chinese medical hospital	6	220	164
	hospital of combined Western medicine and TCM	2	31	—

	special hospital	2	299	76
	outpatient	42	523	10
	clinics	230	663	—
	emergency center	1	101	—
	community health center	2	61	31
	community health station	14	68	18
	disease control and prevention center	1	35	—
	health inspection institute	1	45	—
	health education institute	1	24	—
	provincial maternal and children care service center	1	680	329
	county maternal and children care service center	1	23	—
	others	1	—	—
Zhashui County, Shaanxi	county general hospital	1	180	150
	county special hospital	1	80	60
	enterprise hospital	1	10	—
	private hospital	1	25	45
	township health center	16	184	140
	village clinics	181	190	—
	county disease control and prevention center	1	28	—
	health education section	1	3	—
	county maternal and children care service center	1	16	20
	county family planning institute	1	20	20

The table 3 shows that among all medical staff, doctors accounts for nearly 50%; the ratio of “others” in Xincheng districts’ community health center is high and the rank of most medical staff is middle or below. The amount of staff varies in different areas and institutes, and it relates to target consumers and workloads.

Nowadays, community health centers provide clinical services in means of general clinic, and public health service is also an important task for them. Almost all centers can provide services including treatment of common disease and general surgery, reproductive health service, preventive service, health education and relevant extended services. The main difference of their service fields are consultations of infectious disease, oral care and HIV testing. Concerning to contents of community health centers, they can satisfy young floating people’s health needs. (See table 4)

Table 3 The capacity of community health center in project areas

Name	Number						Rank			
	Total	Doctor	Nurse	Pharmacist	Laboratorian	Others	High	Middle	Low	No rank
Yayuan community health center in TEDA	5	3	2	—	—	—	—	2	2	1
Motor clinics in TEDA	17	8	8	1	—	—	—	6	11	—
Taifeng community health center in TEDA	10	4	4	2	—	—	—	—	—	—
Tianjiang community health center in TEDA	8	3	3	2	—	—	—	—	—	—
Hujiamiao community health center in Xian Xincheng district	43	13	8	4	2	16	—	14	16	13
Ziqiang community health center in Xian Xincheng district	53	24	15	2	3	10	3	17	23	—
Shiweng township health centers in Zhashui county	8	6	2	—	—	—	—	1	3	4
Xialiang township health centers in Zhashui county	23	15	2	3	—	—	—	5	10	8

Table 4 service fields of community health center in pilot districts

Name	Yayuan community health center in TEDA	Motor clinics in TEDA	Taifeng community health center in TEDA	Tianjiang community health center in TEDA	Hujiamiao community health center in Xian Xincheng district	Ziqiang community health center in Xian Xincheng district	Shiwong township health centers in Zhashui county	Xialiang township health centers in Zhashui county
Clinical department distribution	general clinic	general clinic	general clinic	general clinic	general clinic	general clinic	general clinic	Various clinical department
treatment of Common internal medicine	yes	yes	yes	yes	yes	yes	yes	yes
treatment of Common surgical medicine		yes	yes	yes	yes	yes	yes	yes
Treatment of common infectious disease				yes		yes	yes	yes
Treatment of common maternal disease	yes	yes		yes	yes	yes	yes	yes
Obstetrical service					yes			yes
Treatment of common oral disease					yes	yes		yes
Treatment of common skin disease	yes	yes	yes	yes			yes	yes
HIV testing and consultation				yes				
Family planning service	yes	yes	yes	yes	yes	yes		yes
Planned immunization	yes	yes	yes	yes	yes	yes	yes	yes
Prevention of chronicle disease and establishment of health record	yes	yes	yes	yes	yes	yes		yes
Health education	yes	yes	yes	yes	yes	yes	yes	yes
Maternal and children care	yes	yes	yes	yes	yes	yes	yes	yes
Regular test	yes		yes	yes	yes	yes		yes
Rehabilitation			yes	yes	yes	yes		
Family beds			yes	yes	yes	yes	yes	yes

As the table 5 shows that the main patients of community health centers in Xian Xincheng district are residents, so their service models are according to residents; while the most of patients of community health center in TEDA are floating people, and their working time is all day, which is accordance with patients. All interviewed centers' patients enjoy medical insurance.

As we all known, most young floating people are employed in business, catering, services, construction, clothing /commodity / agricultural Sales. Most young floating people in pilot areas occupy on these occupations (see table 6). According to the data, the number of floating people in project areas is large, and they should be paid more attention to. Therefore, community health centers should adjust their working hours and ways to provide services according to floating people's features.

Table 5 service distribution of community health center in project areas

Name	Amount of hospital beds	Outpatients' number per day	Outpatient time	Amount of service population					Whether or not belong to medical insurance medical institutes
				Total population number	New birth number in this year	Children under 5 year old	People above 60 year old	Migrants	
Yayuan community health center in TEDA	0	50	8:30—16:30	17064	62	237	852	1354	yes
Motor clinics in TEDA	0	50-70	24 hours	8000	—	—	—	—	yes
Taifeng community health center in TEDA	0	80	24 hours	—	—	—	—	—	yes
Tianjiang Community health center in TEDA	0	120	24 hours	12000	—	—	—	—	yes
Hujiamiao Community health center in Xian Xincheng district	20	120	8:00—12:00 14:00—18:00	63251	216	3310	14121	17000	yes
Ziqiang community health center in Xian Xincheng district	22	120	8:00—19:00	44985	145	1682	8233	3306	yes
Shiweng township health centers in Zhashui county	—	15	8:00—20:00	6871	68	341	587	145	yes
Xialiang township health centers in Zhashui county	10	26	9:00—16:00	10831	115	456	3892	109	yes

Table 6 Target objects of community health center in pilot districts

Name	Organizations							
	government institute	undertake institute	business	hotel	catering	Commodity market	agricultural Sales market	Beauty salon and massage
Yayuan community health center in TEDA	2	6	0	10	20	2	1	10
Motor clinics in TEDA	—	2	—	10	2	—	—	—
Taifeng community health center in TEDA	—	—	—	—	—	—	—	—
Tianjiang community health center in TEDA	—	—	A lot	—	A lot	—	1	A lot
Hujiamiao community health center in Xian Xincheng district	1		9	31	1299	3	4	84
Ziqiang community health center in Xian Xincheng district	2	11	10			Altogether 38		
Shiweng township health centers in Zhashui county	1	3	2	4	15	—	—	3
Xialiang township health centers in Zhashui county	1	16	4	6	13	4	1	8

2. Qualitative results

2.1 Health services delivery to migrants in Tianjin

2.1.1 General conditions of Tianjin pilot

Approved by State Council, TEDA (Tianjin Economic-Technological Development Area) was set up on Dec. 6th, 1984. It's one of the first state-level development zones and the largest economic zone in Tianjin Binhai new area.

At the end of 2008, there are 159,500 residents and 39,100 permanents in TEDA. The annual birth rate is 2.19‰, mortality rate is 0.22‰, and natural growth rate is 1.97‰. The total employed population is 356,100.

Till 2008, TEDA community health service stations and public health service centers have covered all living quarters including migrants' apartments. There are 2 comprehensive and professional hospitals, 8 community health service stations, 21 non-governmental medical institutions and 51 industrial health care centers in TEDA, with 1070 health professionals including 151 senior titled professionals and 1200 beds. Every per thousand persons owns 3 health professionals and 3.37 beds. The total number of patients treated is 558,800 person-times.

TEDA administrative committee pays great attention to the management of migrants. The apartments specialized for migrants are built and each building can hold 8000-10000 people. There is also a community health service station in each building, providing basic medical treatment. The living environment of migrants is relatively good here.

2.1.2 Health care policies for migrants

Tianjin public health authorities have realized the importance of migrants' health. Despite the current lack of systematic strategy to deal with this, authorities have published several measures which can directly benefit migrants.

Among the ten reform measures released by Tianjin Health Bureau, four of them could benefit migrants: (1) Maternal and child health three-year action plan to strengthen health professionals team-building and project inputs. Because of maternal and child

health service in Tianjin has been opened to migrants, this action plan can inevitably promote the maternal and child health of migrants. (2) According to Tianjin “community health service funding approach”, residents who live 3 months longer in Tianjin can enjoy a subsidy 20yuan per person for 18 health services including immunization and chronic disease management. (3)Zero price difference of medicine in community health service station. Both permanent population and migrants can enjoy this privilege to reduce medical burden. (4)Experts from big hospitals go to community regularly. Through enhancing the community servicing capacity, these movements make migrants can also enjoy a higher quality of service.

In addition, Tianjin maternal and child health care center provide migrants with free health education, including hospital childbirth and maternal-neonatal safety. Meanwhile, by bringing maternal health and infant health of migrants into city’s health care system, migrants could receive free prenatal examination and child vaccinations as residents as well.

2.1.3 Health care provision in health institutions

There are two comprehensive health institutions in TEDA, the one is public (TEDA hospital), and the other is private (Huatai hospital). Though they are operated as level 2 hospitals, their size and service fields have reached level 3 standard. Each hospital affiliated 4 community health care centers. Through purchasing health service from hospital which provides better service and has good competency, government signs a contract with the hospital annually. Government provides hospital working funds but no capitation fee. The affiliated community health care center should be responsible for basic public health as well as basic medical service, including establishment of basic files, health education and publicity, and free physical examination, etc. Service mechanism of community health care center (in particular, private hospital affiliated community health care center) is also constantly adapt to migrants, for instant, some community centers are open till 10pm, some till 12pm, and some even are open 24hours a day to meet migrants’ needs.

2.1.3.1 TEDA hospital and its affiliated community health service centers

TEDA hospital is a public hospital in TEDA, and its target population is migrants. Community department of TEDA hospital is responsible for all works of its affiliated community health care centers. Health professionals of infectious disease prevention take charge of child immunization, maternal and child health, prenatal files, etc. TEDA hospital has set up four community health care centers in its service area which contains seven communities and has established infirmaries in large-scale enterprises to be responsible for the health care and management of community residents and employees. Here is a brief introduction about how the hospital, community health care center and clinic provide health care to migrants, by taking infectious disease prevention department of the hospital, Yayuan community health care center and Motorola clinic as examples.

Infectious disease prevention department has launched a series of migrants-specific programs, including dissemination of health education materials, health education lectures, and periodic TB-related services, etc. They also carried out some activities required by enterprise or community board such as lectures and consultation about family planning towards 18-25 females. In addition, the hospital has carried out several regular health education publicities free to all residents and migrants in the community, like LED scrolling display screen, blackboard newspaper and lectures when there is a major infectious disease or the season changes. The hospital bears all the costs. Last year Tianjin Health Bureau allocated the hospital portion of grants.

There are three doctors and two nurses in Yayuan health care center. The pharmacy is taken charged by nurse. Their working hour is 8:30am to 4:30pm, no break. Daily outpatient number is about 40-50, of them migrants taking 20% who mainly are small traders. The chief complaints are respiratory disease like upper respiratory tract infection.

Motorola clinic has four doctors, five nurses, one for insurance reimbursement, and one for administrative work. They work 24hours per day. The daily outpatient number is around 100, and almost all of them are young and middle-aged migrants. Motorola owns

more than 8000 employees, of which over 1000 are temporary workers and the majority of them are covered by social insurance. The common cause of patients here is internal disease, and sometimes there are injuries. There are also minor occupational damages like heavy metals, dust and electricity.

2.1.3.2 Huatai hospital and its affiliated community health care centers

There are three Huatai hospital affiliated community health care centers in TEDA, namely Tianjiang center, Tianhai center, and Taifeng center. The proportions of migrants they targeting at are 100%, 90%, and 50% respectively. Their service fields are common diseases like seasonal upper respiratory tract infection, intestinal infection, reproductive disease, dermatosis and trauma, etc.

Tianjiang community health care center has three doctors, three nurses, two pharmacists. The center opens 24hours a day and receives 120 patients per day on average. At night, there are one doctor, two nurses and one pharmacist on duty. Their service fields are 8th -13th streets and Beitang area, where lives over 10000 residents. It takes 20 minutes for people living farthest to get to Tianjiang center by driving. Health practitioners here have to bear lots of working pressure.

Tianhai center is relatively small; there are two doctors, three nurses and two pharmacists. It opens 24hours a day, and its daily outpatient number is about 40-50. However, only one third of them come to see a doctor, the rest of them just come to buy some medicine.

Taifeng center is equipped with department of internal medicine, surgery department and general department, and is staffed with four doctors, two nurses, and two pharmacists. It receives 120-130 visitors per day, of which 80-90 are patients and the rest are drug buyers. This center is also open 24hours a day, and staff here has great pressure during working hour.

This shows that, because of the uniqueness of TEDA, migrants are relatively more centralized in both living and working. Hospitals and community health care centers here have developed several health care experiences and models targeting at migrants that

worth promoting.

- Through sending medical professionals of hospital to large-scale enterprise clinic, people can receive qualitative treatment and enjoy medical insurance as well.
- Adjusting the working hour of community health care center to better meet the needs of migrants.

2.1.4 Policies and services provision by related departments

The administrative committee of TEDA, representing government, takes charge of all administrative work of TEDA. Migrants management office of the committee is particularly responsible for migrants management and consists of several functional departments: general office, community service hall, and working field service station, etc. The general office mainly provides living and job information through migrants' website. It also carried out some health education activities concerning preventing HIV/AIDS and H1N1, correct methods of washing hands, and attentions in public transport carriers. Community service hall through periodic visits to community provides migrants face-to-face consultation about family planning, fire fighting, labor and social security as well as coordinates with safety and annoyance problem. Working field service station is responsible for collecting basic files of rural migrant workers, supervising if they signed a contract, family planning of married women, and helping them get insurance. Besides, the station usually organizes some activities like disseminating knowledge of H1N1, providing free stroke preventing foods in summer, and entertainments. The rural migrant workers have great enthusiasm about these.

It is understood that the job of Migrants Management Department has involved many aspects concerning employment guidance, work contract, and life management. The precious experiences should be making good use of and the department should play an important role in health education and health care of migrants in future.

2.1.5 Health and occupational safety of migrants in enterprises

This survey is targeting at professions containing more migrants, including

enterprises which own lots of technicians, construction industry, food and leisure industry.

Usually, good operating large scale enterprises also do well in health and safety work of migrants. Most employees there have medical insurance and good access to health care service. For example, in a Japanese enterprise we surveyed, all employees can enjoy medical insurance; of them about 900 people are migrants, and 90% are women. The enterprise provides training class for new employees including working skills, management skills, communication skills, and health care knowledge. Besides, every month there is a health knowledge popularization activity, concerning diet, personal health and medical knowledge. Every year there is an entertainment, including rope skipping, basketball and fun sports. The enterprise also provides all employees annual physical examination (regular item and gynecological examination). Health knowledge materials are put up on the wall for workers to look at in usual times. Enterprise can set up clinic and recruit health professional after getting approved by administrative committee. The clinic can carry out diagnosis and treatment of common diseases, including family planning and psychological counseling.

Constructive workers take a large portion in migrants. But this group of people didn't enjoy good health care service. The main problems include: (a) Only a few rural migrant workers take part in medical insurance and the rest majority take part in New Rural Cooperative Medicare (NRCM) in their hometown. But there is no policy point out how to use NRCM in different areas. (b) There is no clinic in constructive fields; rural migrant workers would be prone to small and private clinics which are more convenient and cheaper. (c) The arduous daily work makes it difficult to carry out health education propaganda in constructive field. But the constructive field we surveyed still did some safety training before and during the work. Also there are publicizing pictures on the wall, and the administrators hope there could be more preventing disease knowledge education.

Restaurant service personnel have to receive pre-employment medical examination and annual examination due to the nature of their work. In pre-employment training, people receive basic skills and regulations as well as some disease knowledge, but lack of

professional education and guidance. These people rarely have medical insurance or do physical activities, and the restaurant has no clinic, so they also have high health risks.

2.1.6 Health and safety of migrants in apartment management

Apartment management center is responsible for living management of migrants. There are apartments for rent especially to those migrants. Each apartment could accommodate 6000-10000 people, and one room could accommodate 4-8 people. These apartments are place for migrants to stay and live except work place. Apartment management center take charge of safety and health work through administrator of the apartment and people living in that building. In the past, the apartment management center had the support of local authority, so they had organized activities like basketball game and showing films. But there is no particular health education except putting up health education posters in the apartment.

From the apartment management perspective, the main health problems of migrants are reproductive health, personal and room health, and psychological health, etc. It is useful and feasible to organize interesting activities among young migrants in their spare time to spread health education.

Conclusion: TEDA is a migrants-intensive area. Though there is no special privilege for migrants, some policies that could benefit Tianjin residents also apply to migrants. Health care institutions in TEDA fully considered its feature of migrants, and has adjusted their serving hours according to demand. It can't be denied that the main service mode now is waiting for patients coming with little outreach service programs. Although part of the duty of migrants management department concerns health care and has acquired some experiences, it didn't cooperate well with health and other departments. There is a big gap among different enterprises in the aspects of medical insurance, health care service and occupational safety education of migrants. Large-scale companies are relatively regulated while construction and food and service industry are weak. Enterprises and apartments could be two main channels to develop health education

interventions among young migrants.

2.2 Health services delivery to migrants in Shaanxi

2.2.1 Health services delivery to migrants in Xincheng district, Xi'an city.

2.2.1.1 General conditions of Xincheng district

Xincheng district is one of three city districts in Xi'an city. As the central part of xi'an city, Xincheng district owns xi'an railway station and xi'an bus station. In addition, Xincheng district is also an important commodity exchange center, thus there are so many migrants. According to the census data: the number of migrants in this district is about 80,000, a majority of which are occupying on construction, catering and entertainment, business and trades (wholesale markets, which include employers and employees)

There are 373 medical institutions in Xincheng district, including 49 hospitals, 44 outpatients, 1 emergency center, 2 maternal and child health stations, 1 Center for Disease Control and Prevention, 1 health education institute. Xincheng district owns 5597 hospital beds and 7710 health professionals. It has built 9 community health service centers and 34 community health service stations.

2.2.1.2 Health care policies for migrants

In Shaanxi Province, provincial health department has taken account of registered migrants when accounting public health services subsidies. And Xi'an city has included migrants with temporary residence certification into public health subsidies population. Thus, migrants can share public health services if they registered in accordance with the government's requirement.

From May 2008, patients of community health service institutions in Xi'an city can enjoy "five free" policy, which means they can save outpatient registration fee, general outpatient test fee, outpatient intramuscular injection fee, inpatient test fee and nursing fee. The above subsidies are paid by municipal and district governments, and migrants

can also enjoy this policy, as well as they can receive treatment for TB, VCT, immunization, etc for free.

Health institutions have carried out some special services for migrants, such as health lectures, physical examination (one-time and non-regular), prenatal and postnatal visits, infants and children immunization, etc. But these services are not regular and continuous.

2.2.1.3 Health care provision in community health services centers

In Xincheng district, although there are so many floating people, health institutions have not divided them from residents when providing services. All in all, migrants share the same services as household registration population. Compared to other hospitals, community health service centers are more prone to contact and concern for migrants.

Ziqiang Road Community Hospital originated from a 2nd level hospital, and it still keeps its former operation. In addition to previous clinical services, the community hospital pays more attention to public health services, such as sending 5 staff to carry out baseline survey of migrants and then transmitting health related information for them. The community hospital has held healthy lectures, spread health knowledge at the entrance of market, provided Dragee Candy for floating children, tried to establish health records for migrants, etc. However, it seemed that the migrants were not active.

Hujiamiao community service center focuses on public health service, it set up 3 sections, including prevention, women protection and children protection. Among their service population, 2/3 vaccination people and 1/4 patients are migrants. The community service center provides health education both for local residents and migrants, but not enough for migrants. The center only distributes health education leaflets in larger residential areas.

2.2.1.4 Policies and services provision by related departments

There are many management and service sectors related to migrants in Xincheng district, such as Sub-district Offices, Labor and Social Security Bureaus, Women's Federations, etc. The specific tasks of them are as follows.

Sub-district Offices, as the grassroots level of government departments, mainly take charge of family planning and household management of migrants. In May 2009, China issued a "National Migrants Family Planning Regulations", the regulation defines that the township governments and sub-district offices take charge in migrants' family planning management, and carry out birth control propaganda and education. Besides, they should organize relevant institutes to give information to reproductive-aged couples among migrants (hereinafter referred to couples of childbearing age) on how to choose a safe, effective and appropriate contraceptive measure and provide basic family planning services for them. Moreover, the governments and Sub-district Offices of migrants' current residences should establish a communications system with those of their household residences in order to collect information effectively. In July 2009, Xi'an formulated "Regulations of Xi'an Temporary Resident Population," stipulates the management and service content of temporary residents, and mainly focus on their rights and benefits protection. And it also sets public security organizations to provide law and regulation training for temporary residents. Sub-district offices carry out family planning management of migrants according to the regulation, and at the same time provide free medical examination (pregnant women examination, women's diseases), reproductive health training, psychological counseling services, and nutrition guidance for women.

Labor and Social Security Bureau are responsible for training and employment for floating workers, university students and laid-off workers. Xincheng Labor and Social Security Bureau has carried out skills training for migrants (cities residence needs to pay and countryside residence for free), regulations education (how to sign contract, conduct pension insurance and prevent fire disaster), health education (AIDS, tuberculosis) and other activities. Similar activities are organized every month. Besides, the Bureau has carried out free medical examination, hairdressing, recreational activities (spring festival party, sports activities), etc.

Women's Federation's primary responsibility is to safeguard women's rights and promote gender equality. Their activities are focus on promotion, but have also organized cervical cancer screening for floating women. In rural areas, women's federations visit

every household at the end of the year. They will educate mothers if their daughters work outside, and then let mothers teach their daughters. The education contents include occupational safety, self-protection and not engaging in undesirable occupation, etc.

2.2.1.5 Health services in enterprises and schools

In China, there is no regular and mandatory requirement to enterprises to promote their employees' health, so enterprises' behaviors vary widely according to their own situation.

A wholesale clothes market. There are 500 stalls and about 2,000 employees, 40% of whom are floating people. The booth term is generally five years, but few of people stay at there for a relative long time and a majority change their job every 1 or 2 years. As this market owner owns the whole stalls, and the stalls are rented regularly. The booth keepers hire sales staff according to their own conditions. Managers and booth keepers are lease relation, while booth keepers and salesperson sign a contract of employment. Therefore, managers supervise the migrants indirectly, and more care about the market operating safety and healthy. Management departments carry out basic safety training (fire, and theft), quality improvement training to salesperson regularly, but rarely concern to health prevention knowledge, and employers need not to buy mandatory insurance for employees.

A hotel. According to "Labor Law", the employers should sign labor contracts with employees, and buy "3 fare" (pension, medical care insurance and housing provident fund) for employees. Employees can sign the contacts for one year or longer. But in fact, few of employees can comply with the law, and the relevant indemnification can only be enjoyed by middle-level managers. As to employees' safety and health protection, the manager can only organize employees' training, including safety supervision training, women workers' health knowledge improvement and their own rights protection. The hotel holds activities per quarter, which are sports and performances. Large hotel owns medical clinics, and be supervised by personnel department. Hotel provides an annual physical examination, and do not provide family planning services currently.

A construction site. The evening school for farmers has been held in the site, which contains 10 lessons per year, including 1-2 health-related lessons, mainly involving common diseases prevention, construction safety and so on. A pointed person is responsible for evening school and training. The courses are usually arranged on spare time or rainy days, and the primary form is film watching. The professionals from health sectors give migrants knowledge on AIDS and tuberculosis prevention. The site has a clinic, financed by a labor and service enterprise. In summer, it distributes heat stroke proof materials to workers for free, and workers need to pay themselves if they are ill.

A vocational school. There are many young migrants in vocational schools, and they can be easily organized there. Compared to other society, schools can provide relatively high qualified health service for young migrants. School sets up mental health courses with unified books, and every course occupies 2 hours. School invites professionals from outside to give students seminars and training about health knowledge. Three-year students are required to attend one course per week, in which the main contents of courses are seasonal epidemic diseases prevention, reproductive health, occupational hazards prevention, etc. Health promotion courses can in form of morning sessions, classes meetings and health newspapers. In addition, school promotes health knowledge through advocacy bar, blackboard newspaper and broadcasting, especially to students living on campus. School conducts health promotion by subscribing newspapers for every class, pasting posters, distributing leaflets and giving students' opportunity of web pages browsing. Every year, school expands 5,000 Yuan on health education. Sometimes, school's politics and education department staff, teachers, students union and volunteers take part in health education, but health education mainly be charged by school doctors. The school clinic has a part-time doctor, who responsible for students' daily health problems, but the clinic can only handle small injury and can not prescribe medicine and drugs. School arranges annual physical examination for students, which are implemented by the District Health Education Bureau.

Conclusion: Young migrants in Xincheng district, Xi'an city are mainly

employed in commercial market, hotels and construction sites. They are scattered, so it is not easy to organize them. Although there are no special preferential policies for migrants, some policies applied in medical institutions can be enjoyed by migrants too. Besides providing basic medical service for migrants, community health service centers also provide health education. While constrained by financial and human resources, the public health service for migrants is inadequate. Sub-district offices, Labor and Social Security Bureau and women federation also provide relevant services for migrants, but lacking of cooperation and coordination with each other. The units which migrants work for provide health services too, but there is a wide gap among them.

2.2.2. Health services delivery to migrants in Zhashui County

2.2.2.1 General conditions of Zhashui County

Zhashui County locates in Shangluo City in Shaanxi Province, and there is 16 towns with total population about 150 thousand. In 2009, there has been 18 thousand organizational labour export and 40 thousand unorganized. There is various kinds of organizational labour export, such as processing enterprises in the South, groups that seasonal going to Xinjiang Province to have cotton harvest (2000–3000 people per time), restaurants and service industry, vocational schools (students that before graduating from schools practices in the factories in order to correspond with the cultivation of the factories, they mainly do technological work such as electric welding and motor repair.). And unorganized migrants mainly go to coal mine, brick filed, constructing and fitment places of Shaanxi Province and North of Shaanxi Province.

In Zhashui County, there are 6 medical institutions, 508 health professionals, 216 medical units (7 in the county, 32 in the towns, 171 in the villages, 6 clinics in the factories, mines and hospitals, and 26 private clinics.)

2.2.2.2 The provision of health services and related policies for the migrants

Before the migrants move from their home to the working places, they have no difference with farmers, and so could enjoy the insurance of New Rural Cooperative Medicare (NRCM). The NRCM of Zhashui County is implemented in the form of comprehensive arrangement for serious disease and outpatient service of medical saving account, and also second subsidy for serious disease, but these policies are only be used when the insurant seek for health services in local county. Migrants that move to other places can not enjoy them in their working places.

There are no special health services and related policies that provided to the migrants in Zhashui County. One reason is, it is not easy to get in touch with the migrants, especially persons that flowed out scattered; the other reason is the health service provision to them needs political support and local health system can not achieve easily.

At present, how to get reimbursement when a floating person utilizes health services outside his county is an issue that migrants and their families mostly concerned with. They hope that their medical expenditure could be shouldered partly by the government.

2.2.2.3 Policies and services provision by related departments

Local government. To the organizational labour export, such as people going to Xinjiang Province to pick cotton, related departments of the county (for example, Labour and Employment Management Bureau) can organize trainings, including health knowledge distribution, and in the organizational migrants team there are health workers to insure the population health. To the unorganized labour export, there is no special plan. Training organized by the government of the towns contains technical training as well as related health knowledge. And the difficulty is poor activeness of the residents.

Labour and Employment Management Bureau of Zhashui County. It is a subordinate unit of Labour and Social Security Bureau, and is in charge of labour export management. It organizes various trainings, including rights protection and unexpected injury prevention trainings, technological training, undertaking training and so on, and in each training there will be 100 to 200 participants, with the period of 20 days and more

than 150 hours, after the training the trainee could get certification, but health knowledge do not be included in the trainings. In addition to the training, the bureau does not carry out other activities.

Family planning department. The department mainly carry out work of birth control, and always involves health services and health knowledge provided to the women. The department in Zhashui County had disseminated reproductive health knowledge; had screen diseases for women(such as cervical cancer, breast cancer, virginities) in the programme of “examination for women of childbearing age” during 2008 to 2009, including women that going to other places for work. Through “marriage and fertility certification” , the family planning department can contact with migrants regularly and hold the condition of 80% women working outside. Because with the prove, the female migrants can enjoy the same rights with the resident women do, such as receiving contraceptive drugs and tools for free.

Conclusion: As a flow-out place, Zhashui County did not have the policy that promoted the health condition and health service utilization of the migrants. But it had begun to care about health training in the organizational labour export, and the family planning work have had a systematic follow-up and management mode, which could be referenced in the progress of health promotion. But the health training toward unorganized migrants is scarce.

PART IV PROBLEMS AND DIFFICULTIES

1.Macro level

1.1 Social security policy for the migrants

Because of the oversupply of the labour market, many enterprises would not sign contacts with migrants as the requirement of the labour law, which leads to medical insurance and labour injury insurance failed to be bought. It directly affects the paying ability for health service by them and then affects their health service utilization.

1.2 Geographic limitation in the use of medical insurance

By the end of 2008, there are 2729 counties (districts or cities) that have conducted New Rural Cooperative Medicare, with 0.815 participating farmers, and the participating rate is 91.5%¹⁸. Most of the migrants that surveyed have joined it, but a policy that how to use it in other places has not formed yet. At present, NRCM reimbursement is tried out in some provinces, but migrants that coming from different provinces still have some difficulty in enjoying the insurance.

1.3 Lack of information and monitoring data of the migrants

Information and statistics of the migrants is the basis of health service provision to them, and it is also a difficult problem. Only when we know their basic information can we realize what they need and then provide appropriate health services. Some director in Bureau of Health of Tianjin believed that in order to solve the health problem of migrants, we must strengthen the management to them, but the fact is that we have a weak foundation. We did not have a comprehensive health evaluation and relative survey among the migrants.

2 Middle level

2.1 Coordination and cooperation between different departments

In the progress of surveying, many leaders said that it was difficult to solve the health problem only from the perspectives of health departments. Some departments mentioned that although different departments tried to coordinate and cooperate with each other, but they did not know exactly how other departments operated. Some community doctors reflected that they could not get coordination when they went to the enterprises and also could not be accepted when they went to the community. From the investigation of Shaanxi, there is no mainly responsible department to conduct the health management of the migrants, it was in charged by police department, family planning department, community and so on. Tianjin has set up the office of migrant management, which is responsible for collecting statistics, labour security and family planning. And the health service from health departments is towards all the people, they did not differentiate local

people and migrants. So health service to the migrants' needs information sharing, coordination and cooperation form many departments, such as sub-district offices, community health service centres, and household registration section and so on. It is a problem that how to coordinate all the departments with a leading one.

2.2 Recognition of the employers

The employers' recognition and acceptance to health service and health education would largely influence the utilization of the health service of the migrants, because the employers attach more attention to the companies' economic benefit and the migrants have a loose organization. The employers have a low cooperation level when health departments provided service initiatively. In Tianjin, there is a case that it was difficult for community doctors to go to workers' apartments because the enterprises refused to accept and there is no neighbourhood community to rely on. Finally, the doctors could only contact with the property departments. Therefore, health education is inaccessible to.

3 Micro level

3.1 Lack of health risk awareness in migrants

Migrants, especially the youth, their education levels are almost junior high school level, and they are at the stage of low mortality and disease prevalence, so they have a lower health consciousness and lack enough impetus to seek health knowledge. Directors that be visited reflected that some floating women once gave birth in the house and she did not know what had happened. So lack of health consciousness is an important factor influencing the health service utilization by young migrants.

3.2 Know little about the medical institutions near them.

Know little about the medical institutions around the living place is another important factor that influences the migrants' health service demand. Community doctors from Tianjin and Shaanxi reflected that migrants do not always go to hospitals for treatment, as well as they do not know community hospital much. They have difficulty in distinguishing hospital without license and genuine community hospital, and they usually go to small clinics nearby. It is obvious that the publicity of community hospitals among

migrants need to be strengthened.

3.3 Lack of information about relative preferential policies

There are some medical preferential both in Tianjin and Shaanxi, such as, maternal and child health free examination planning in Tianjin, “five free” treatment policy in Xi’an, all of these also benefit the migrants, but they know little. Community doctors from TEDA Hospital in Tianjin said “the migrants were more likely to choose small clinics and private hospitals for treatment, because they know little about our work and related policies”, “we do not charge the registration fee and diagnosis fee in community hospitals, but the migrants do not know that.”

3.4 Physician-patient relationship

Physician-patient relationship is a hot topic in health services. The relationship between community doctors and floating persons is another important factor to influence the health services provision and utilization. In the survey we knew that some enterprise doctors have a good relationship with the workers, which could promote the migrants to visit doctors regularly and improve compliance to the health prescription. But some communities provide fewer services toward migrants, and physician-patient relationships are not good enough. The patients are afraid to be over-prescribed, and to be extreme the community doctors had been assaulted on.

3.5 The managers’ ignorance of the migrants’ health needs

The managers of the migrants always believe that the population have good physical conditions because they are young, so managers do not pay much attention to the population’s health conditions and problems. Therefore, concerns about the migrants health from management departments and enterprises need to be improved.

3.6 Shortage of health resources

Both the health managers and community doctors reflected that there should be more resources to provide migrants, such as free medicine, free leaflets, periodical medical examination and so on. Community doctors need much more substance support

if they go into communities personally. An example is from Xincheng District in Shaanxi Xi'an, the community doctors felt that they did not have enough persons and basic drugs, leaflet and so on. Technical secondary school as an assembling unit of migrants has the same problem with few financing support to carry out activities, so they especially hope that related departments could come out favourable policies to provide free physical examination and treatment for the floating students, in order to increase their health knowledge, health consciousness and utilization of health services.

3.7 The ways to provide health education

The main difficulties to carry out health education to migrants are their mobility and time restriction. We can only take some targeted measures according to their features. Many places had the problem of lower enthusiasm from the targeted population when health education was carried out. Therefore, we still need cooperation between health departments and others to seek more suitable health education measures to improve the situation, and make the migrants get more health knowledge and skills.

PART V SUGGESTIONS

On the macro level, to increase the health care utilization of migrants, follows should be well done. First, the government should improve the social security policies and promote the enterprises to provide insurance to migrants. Second, coverage of health insurance should be enlarged and geographic limitation of insurance usage should be broken, especially New Rural Cooperative Medicare (NRCM). Third, the government should enhance the monitoring and management of migrants and find out their health needs to provide appropriate health care services, whether in flow-in or flow-out areas.

On the operational level, we conclude as follows. First, community health service centers are main body to provide health services. Second, the communities of migrants, such as living places and working places, are priority sites of services provision. Third, health education should be given as early as possible, such as before their flow out, during their receiving pre-job training, as well as in a form of regular training in job.

The details are as follows.

1. Promote cooperation and information sharing among related departments

The cooperation between community health centers and other departments are mainly to get more information of migrants, arouse related departments' attention to migrants' management and try to integrate the health education into their daily work or training. These departments include sub-district offices, community of migrants' management, population and family planning departments, labor and employment departments and enterprises.

2. Send more information to three groups

2.1 Young migrants. More information about health knowledge, about how to use health services and how to use health insurance should be sent to them.

2.2 Government administrators. The importance of providing health services to migrants should be recognized by them and their support will get twice the result with half the effort.

2.3 The employers. Urge the employers to pay more attention to workers' health problems by providing more information about workers needs and related policies, especially to those employers whose enterprises employ lots of migrants but in bad working conditions.

3. Change the way to provide health services to migrants

Migrants are different from inhabitants. They would not seek for health services actively. Therefore, the doctors of community health service centers should change their working way. They should enter into the living or working places to provide services and try to build up good relationship with the population.

In addition, hospitals can set up community health service centers or small clinics in living or working places of migrants and serve this population specially.

4. Strengthen the service capacity of health sectors in flow-in and flow-out areas

A survey from Tianjin Bureau of Health showed that it is the community health services that migrants often use. Therefore, strengthening the capacity of community service provision in flow-in and flow-out areas would be helpful to the migrants' health. To strengthen the capacity needs more health professionals, machines and materials, as well as health education materials, low-price and good- effectiveness drugs supply.

5. Provide more health education in migrant youth

Set up young migrants health education mechanism, bring the health education into employment training and daily life management and make it as a regulation. At the same time, the forms of health education should be in line with the local conditions.

5.1 In flow-out area. Systematic health education should be provided when training are given to youth who are possible to flow out or to young farmers. Health education can also be added into current courses of **Population School** which family planning sectors are responsible for. In addition, we can spread the information by means of blackboard, advertisement before a film, face to face lecture and group discussion. If possible, vocational-technical education and health education can be integrated into nine-year compulsory education with the support of education sectors. Health information can also be sent to flow-out population when they return to their hometown in holidays or to their parents to pass to them indirectly.

5.2 In flow-in area. Workplaces and living communities can be chose as priority. The health education and promotion activities should be hold with consideration of the characteristic of the migrants and their working conditions, such as their time limitation, favorable forms and proper contents. The activities would be good for their productivity, as well as their health. In living communities, considering the traits of youth, sports and entertainment activities can be organized with information of diseases prevention and health services utilization in it.

6. Mobilize the enterprises' managers and community leaders

The employers and living community managers are the gate-keepers and important organizers of health education and promotion activities. Their concerns and support will determine the effectiveness directly. In workplaces, we should emphasize the importance of young migrants' health education and promotion activities to raise labor productivity in enterprises, to reduce the incidence of diseases and costs of illness, and improve the workers' satisfaction with the enterprises, because the activities reflect the enterprises' concerns about employees' health. In living community, when we mobilize the leaders from communities, we should emphasize the communities' priority in health education and that it reflects the government's care about the migrants' health and it will promote the society stabilization.

References

- 1 Duan Chengrong, Yang ke, Zhang Fei, et.al., Trends of Floating Population in China Since Reformation and Opening. *Population Research*, 2008, vol 32, No.6: 30-43
- 2 Chi Yingjie, *The Youth and Their Health Development in China*. China Youth Press, 2008.6
- 3 Ye Xujun , Shi Weixing , Li Lu. Health Status of Migrant Workers in Cities and Policy Suggestions. *Chin J Hosp Admin* ,Sep 2004 , Vol 20 , No. 9: 562-566
- 4 Hu Lianxin, Chen Yanyan, *The Public Health Situation in Floating Population in China*. *Modern Preventive Medicine*, 2007, Vol.34, No.1: 96-98
- 5 Huang Jianhua, *Problems and Strategies about Diseases Prevention in Floating Population*. *Chinese Rural Health Service Administration*, June 2007, Vol. 27, No. 6: 460-461
- 6 Zhou Jianbo, Zhang Xiujun , Sun Ye huan. The Prevention and Control and Prevalence Status of STD/ HIV among China's Floating Population. *Inter J Epidemiol Infect Dis* ,December 2006 ,Vol. 33 ,No. 6: 425-428
- 7 Li X, Fang X, Lin D , et al . HIV/ STD Risk Behaviors and Perceptions among Rural-to-urban Migrants in China. *AIDS Educ Prev* , 2004 , 16 (6) :538-556.
- 8 Xinguang Chen, Xiaoming Li, Bonita Stanton, *Cigarette Smoking among Rural-to-urban Migrants in Beijing, China*. *Preventive Medicine* 39 (2004) 666– 673
- 9 Katia Levecque, Ina Lodewyckx, Jan Vranken. Depression and Generalised Anxiety in the General Population in Belgium: A comparison between native and immigrant groups. *Journal of Affective Disorders* 97 (2007) 229–239
- 10 Elia J. Mmbaga, Germana H. Leyna, Akhtar Hussain. The Role of In-migrants in the Increasing Rural HIV-1 Epidemic: Results from a Village Population Survey in the Kilimanjaro Region of Tanzania. *International Journal of Infectious Diseases* (2008) 12, 519—525
- 11 J. Lindert, M. Schouler-Ocak, A. Heinz, S. Priebe. Mental Health, Health Care Utilization of Migrants in Europe. *European Psychiatry* 23 (2008) S14–S20

- 12 Zhang Jianjun, Zhang Xiaohua, Survey on health status and utilization of health care service in floating population of Fengtai District, Beijing. Capital Journal of Public Health, Aug. 2008 Vol12 No14: 162-164
- 13 Ministry of Health of the PRC, Chinese Health Statistical Digest 2009. Two-week Morbidity Rate.
<http://www.moh.gov.cn/publicfiles/business/htmlfiles/mohbgt/s8274/200905/40765.htm>
- 14 Xu Jun, Gong Xiangguang. The Research of Opinions and Willingness to Supply Public Health Services for Rural Workforce. Chinese Health Economics, 2006, Vol 25. No.8: 69-71
- 15 Chen Gang, Lv Jun. A Will Survey on the Materna l and Child Health Care of Migrant from Migrant Governors and Health Care Service Providers. Chinese General Practice. May 2006, Vol, 9 No. 9: 746-748
- 16 Jian Weiyan, Health Services Management for Migrants in Foreign Countries. China Journal of Pharmaceutical Economics. 2008. No.2: 80-86
- 17 Steven S. Coughlin, Katherine M. Wilson. Breast and cervical cancer screening among migrant and seasonal farmworkers: a review. Cancer Detection and Prevention 26 (2002) 203–209
- 18 Ministry of Health of the PRC, Chinese Health Statistics Report 2008.
<http://www.moh.gov.cn/publicfiles/business/htmlfiles/mohwsbwstjxxzx/s8208/200904/40250.htm>