

Health equity and social justice in the rural areas of China

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Background

China is the most populous country with over 1.3 billion people or 20% of the world's population in 2009^[1,2]. More than 57% of China's populations are resided in the rural areas.

The 1980s market oriented reforms have led to the collapse of the 1960s and 1970s cooperative medical system (CMS - performed well in providing affordable primary care) and the majorities in the rural areas are not covered in the government or employers sponsored health care^[3].

Understanding the rural population's health status, determinants of health, and chronic disease prevalence is critical for social justice and health promotion programs^[4,5].

The new rural cooperative medical system is organized, guided and sponsored by government. Peasants join it voluntarily. The fund is raised from individual, collective and government in many ways. It is a peasant's medical interdependent system which takes comprehensive arrangement for serious disease as the principal thing.

It is a great cause to benefit 90 million peasants. It was put into practice in China from 2003.

Table 1 The new rural cooperative medical system progress schedule

| year | Covered counties | Financing standard (RMB yuan) |
|------|------------------|-------------------------------|
| 2003 | 304 | 30 |
| 2004 | 333 | 30 |
| 2006 | cover 40% | 50 |
| 2007 | cover 86% | 50 |
| 2008 | cover 100% | 80 |
| 2009 | cover 100% | 100 |
| 2010 | cover 100% | 150 |

Objectives

To identify the rural health equity and prevalence rate of chronic diseases; to discuss social justice under the new-type cooperative medical system in China

Materials and methods

Population Studied: Peasants who live in rural areas at least six months were the subject. 1860 households were investigated each year.

Time: In 2003 (Wuyuan), 2004 (Luxi County, Xiushui) carried out baseline survey before the implementation of the new rural CMS respectively.

In 2006, 2007 and 2008 conducted follow-up surveys after the implementation of the

new rural CMS.

Place: Wuyuan, Luxi, Xiushui 3 Counties, 9 towns and 27 administrative villages in Jiangxi Province, P.R.China.

Sampling method: Multi-stage stratified random sampling method.

Sort all towns according to peasant annual income per capita.

Cut them off at the points of 33.33% and 66.67% and divide them into 3 layers.

Each layer sampled one town according to the cumulative population number randomly.

Every town sampled three administrative villages using the same way.

In the sample villages, according to house number, confirm the first house number randomly, survey about 70 houses in proper order.

To ensure the comparability of data, townships (town) and villages in base-line investigation and follow-up investigations are the same sample.

Investigating method: In-home interviews, questionnaire recommended by the Ministry of Health, adjusted according to the actual situation by School of Public Health, Nanchang University.

Investigation content: The demographic characteristics, income and chronic disease. The chronic diseases defined by all new and old cases of chronic diseases within the half-year period.

Investigator: Trained interviewers were graduate students from the School of Public Health, Nanchang University. Staffs from peasant health bureau of each county cooperated the job.

Grouping method: According to the order of low to high income, study respondents were classified as seven groups: I (10%), II (10%), III (20%), IV (20%), V (20%), VI (10%), and VII (10%).

Equity evaluation index: Concentration index (CI) and slope index of inequity (SII)

Data analysis: EXCEL2003 was used for data entry and SPSS13.0 for statistical analysis.

Results

1. Basic conditions

A total of 7442 households and 31,239 respondents participated in the surveys.

The average numbers of respondents were four per household. The ratio of male to female was about 1.06. The mean age was 34 years old (Table 2).

Table 2 4 surveys social demography characteristic of sample people

| Year | Households | The total number | Population per household | Male to female ratio | Average age |
|-----------|------------|------------------|--------------------------|----------------------|-------------|
| 2003-2004 | 1785 | 7708 | 4.32 | 1.06 | 33.64 |
| 2006 | 1924 | 8073 | 4.20 | 1.05 | 34.24 |
| 2007 | 1861 | 7450 | 4.00 | 1.07 | 34.38 |
| 2008 | 1872 | 8008 | 4.28 | 1.05 | 34.85 |

2. Half-year chronic disease prevalence rates and its equity

The chronic disease prevalence rate in half-year ranged from 7.8%-13.5% at baseline, and 5.3%-14.1% in the follow-up surveys. Overall, the chronic disease prevalence rate decreased in the subsequent years when comparing with the baseline, except for those 10% of the study sample with the lowest income.

In general, respondents with the lowest income had significantly higher chronic disease prevalence rate than those of the other groups. As the income increased, the chronic disease prevalence rate decreased.

The absolute values of CI increased slightly over time, but less than 0.2 across the study period. In comparison with the baseline, the absolute values of SII were higher in 2006 and 2008, but lower in 2007. Both CI and SII are negative in 4 surveys (Table 3).

Table 3 Half-year chronic disease prevalence rates and its equity

| Income Groups (Low to High) | Baseline (2003-2005) | | | 2006 | | | 2007 | | | 2008 | | |
|--------------------------------|----------------------|------------------------------|----------|------|------------------------------|----------|------|------------------------------|----------|------|------------------------------|----------|
| | N | chronic disease in half-year | | N | chronic disease in half-year | | N | chronic disease in half-year | | N | chronic disease in half-year | |
| | | n | Rate (%) | | n | Rate (%) | | n | Rate (%) | | n | Rate (%) |
| I (10%) | 770 | 104 | 13.5 | 807 | 114 | 14.1 | 745 | 101 | 13.6 | 800 | 113 | 14.1 |
| II (10%) | 771 | 91 | 11.8 | 807 | 82 | 10.2 | 745 | 80 | 10.7 | 801 | 81 | 10.1 |
| III (20%) | 1542 | 154 | 9.9 | 1615 | 124 | 7.7 | 1490 | 122 | 8.2 | 1602 | 140 | 8.7 |
| IV (20%) | 1542 | 144 | 9.3 | 1615 | 86 | 5.3 | 1490 | 108 | 7.2 | 1602 | 132 | 8.2 |
| V (20%) | 1542 | 122 | 7.9 | 1615 | 102 | 6.3 | 1490 | 126 | 8.5 | 1602 | 92 | 5.7 |
| VI (10%) | 771 | 61 | 7.9 | 807 | 50 | 6.2 | 745 | 60 | 8.1 | 801 | 43 | 5.4 |
| VII (10%) | 770 | 60 | 7.8 | 807 | 44 | 5.5 | 745 | 63 | 8.5 | 800 | 50 | 6.3 |
| Total* | 7708 | 736 | 9.5 | 8073 | 602 | 7.5 | 7450 | 660 | 8.9 | 8008 | 651 | 8.1 |
| χ^2 | | 28.849 | | | 80.926 | | | 30.289 | | | 67.723 | |
| P | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | |
| CI | | -0.100 | | | -0.156 | | | -0.071 | | | -0.157 | |
| SII | | -9.643 | | | -12.613 | | | -7.287 | | | -12.896 | |

*comparisons of prevalence rates in surveys: $\chi^2=24.875$, $P=0.000$

CI: concentration index; SII: slope index of inequity

Conclusions

Poorer income or socioeconomic status is associated with higher rate of chronic disease prevalence and health inequalities.

The chronic disease prevalence rate decreased in the subsequent years when comparing with the baseline and is lower than the 2008 national average estimate (20%) in the study region, reported by the Ministry of Health in China^[6].

It appears that the new-type rural CMS, launched in 2003, has been a success with a beneficial impact on chronic disease prevalence rate and equity in the rural areas.

Implications for Policy, Delivery or Practice

Recently revitalized new-type rural CMS is in the right direction for reducing the urban and rural socioeconomic differences and health inequity.

The government needs to make sure that sufficient funds are allocated and reserved to sustain the new-type CMS, in order to cover primary care for all rural areas and

improve health equity.

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