

## SHORT REPORT

## Gender differences in education related health inequalities in Chinese northern rural areas: 1993 and 2001

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Recently, there has been some evidence that the magnitude of social inequalities in health differed between men and women.<sup>1</sup> Yet, those studies were carried out mostly in the industrialised world, and their conclusions were inconsistent. Meanwhile, studies of changes in social inequalities of morbidity are comparatively scarce. Therefore, in this study it was our aim to measure and compare the extent of education related inequalities in morbidity between men and women in Chinese northern rural areas in 1993 and 2001.

## METHODS AND RESULTS

Cross sectional data were obtained from two nationwide surveys in China carried out in 1993 and 2001. Representative population samples were studied in rural areas of three northern provinces, including Hebei, Shanxi, and Gansu. The number of respondents aged 15 years and older was 5240 in 1993 and 4622 in 2001. People were ranked by their educational level and divided into four categories. The age adjusted proportion of restricted activity, which was defined as a short-term reduction in a person's activities during the two weeks preceding the survey, was used as the health indicator. The association between educational level and health indicator was measured by means of the adjusted odds ratio based on logistic regression analysis, and the Relative Index of Inequality was used to quantify the magnitude of health inequalities.<sup>2</sup> The relative changes between 1993 and 2001 were measured by fitting logistic regression models combining both surveys.<sup>3</sup>

The most important results of study are presented in table 1. Our findings show that people who belonged to lower educational levels had a greater disposition for illness, and the gaps in health were broader in 2001 than in 1993 for both genders. In addition, gender differences in health inequalities were proved, and the social inequalities in health were greater

## Key points

- Education related health inequalities existed and favoured the higher educational level groups in northern rural areas in China.
- Gender differences in inequalities in health were also found and dissimilarity in health was greater in women.

for women than for men. Meanwhile, gender differences in health inequalities also increased from 1993 to 2001.

## COMMENT

Gender differences in inequalities in health could mainly reflect the dissimilarity between women and men in work conditions, material circumstances, lifestyles, and the use of health care services. In our study, after the occupation and income variables had been controlled, the impact of work conditions and material circumstances was comparatively modest. The education related health inequalities could therefore indicate the gender differences in life styles and the use of health care services. It has been proved that diversity in life styles was not the most important reason for gender differences in social inequalities in health.<sup>4</sup> Therefore, taking the context of Chinese rural areas into account, we could conclude that education had significant impact on the inequalities in health and the differences in the use of health care services between men and women caused by education diversity played an important part in it. Finally, we would like to propose two policy suggestions based on our study. Firstly, to improve education and health care services in rural areas, especially for women. Secondly, to strengthen the surveillance of health inequalities in China.

**Table 1** Proportion of restricted activity by educational level, northern rural areas in China, 1993 and 2001

	Men				Relative change 1993/2001 (95% CI)	Women				
	1993		2001			1993		2001		
	%*	OR† <sub>1</sub> (95% CI)	%*	OR† <sub>2</sub> (95% CI)		%*	OR† <sub>1</sub> (95% CI)	%*	OR† <sub>2</sub> (95% CI)	Relative change 1993/2001 (95% CI)
Education level	10.17		8.47			12.82		12.21		
Basic	10.32	1	18.21	1		16.94	1	15.93	1	
2nd	10.04	0.92 (0.65 to 1.29)	8.45	0.81 (0.53 to 1.22)	0.85 (0.51 to 1.42)	11.92	0.77 (0.56 to 1.05)	14.86	0.98 (0.73 to 1.33)	1.19 (0.81 to 1.76)
3rd	9.26	0.85 (0.57 to 1.28)	8.22	0.75 (0.47 to 1.18)	0.84 (0.49 to 1.44)	7.55	0.72 (0.49 to 1.06)	10.00	0.56 (0.38 to 0.83)	0.68 (0.43 to 1.08)
Highest	7.70	0.87 (0.50 to 1.89)	6.88	0.61 (0.34 to 1.10)	0.68 (0.37 to 1.25)	8.52	0.52 (0.24 to 1.15)	6.26	0.32 (0.15 to 0.66)	0.50 (0.18 to 1.40)
RII		0.86 (0.49 to 1.53)		0.62 (0.34 to 1.12)	0.70 (0.34 to 1.44)		0.54 (0.30 to 0.96)		0.33 (0.19 to 0.57)	0.52 (0.27 to 0.99)

\*The proportions adjusted by age; †the OR adjusted by age, income quintile, and occupational status.

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**REFERENCES**

- 1 **Matthews S**, Manor O, Power C. Social inequalities in health: are there gender differences? *Soc Sci Med* 1999;**48**:49–60.
- 2 **Kunst AE**, Geurts JJ, van den Borg J, *et al*. International variation in socioeconomic inequalities in self reported health. *J Epidemiol Community Health* 1995;**49**:117–23.
- 3 **Anitua C**, Esnaola S. Changes in social inequalities in health in the Basque Country. *J Epidemiol Community Health* 2000;**54**:437–43.
- 4 **Denton M**, Walters V. Gender differences in structural and behavioral determinants of health: an analysis of the social production of health. *Sci Med* 1999;**48**:1221–35.



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