

Urban–rural, age and gender differences in health behaviours in the Chinese population: findings from a survey in Hubei, China

By: ZongFu Maoa, Bei Wu

Mao, Z.F. & [Wu, B.](#) (corresponding author) (2007). Urban–rural, age and gender differences in health behaviours in the Chinese population: findings from a survey in Hubei, China. *Public Health*, 121(10), 761-764.

Made available courtesy of Elsevier: <http://www.sciencedirect.com/science/journal/00333506>

*****Note: Figures may be missing from this format of the document**

Introduction:

Health behaviours are affected by socio-economic status, such as income and education, and socio-demographic characteristic factors^{1,2} as well as ³ cultural values. Researchers have pointed out that, in order to have a better understanding of health behaviours and to develop better prevention strategies, it is important to address the social and historical context within which health behaviour is ⁴ inextricably linked.

One prominent issue in China is urban—rural differences. In addition, there are many socio- economic, health, and cultural differences across various age groups due to the political and economic changes that have occurred over the past several decades. The gap in health status is widening between urban and rural residents in China because most adults living in urban areas have health insurance, pension coverage, and state provisions based on employment status, whereas few rural residents have these benefits.⁵ Studies have identified tobacco abuse and alcohol-related health problems as a particular concern for rural China. However, comparative data on health behaviours between urban and rural residents in China is sparse, and even fewer studies have emphasized age differences. It is important to analyse health behaviours across a broad range of characteristics to determine when differences first become apparent and how they vary across age and socio-economic groups.

Health behaviour studies in China, published in both English and Chinese, have focused on a single health behaviour, the majority of them on cigarette use. Few studies have examined health behaviours from a multi-component perspective. The uniqueness of this study was its focus on multi -dimensional aspects of health behaviours across different age groups and genders among urban and rural residents. Health behaviours of interest for this study include smoking, alcohol use, physical activity, and actively seeking health-related information. The aim of this study was to provide the critical knowledge necessary to understand health behaviours in China and to provide insight that would contribute to the effectiveness of the timing, focus, and content of prevention programmes and policies.

We used data collected in Hubei Province, a part of the Third National Health Service Survey conducted in 2003. The study sample included 16804 individuals aged 15-101 years. Health behaviours in the study included cigarette use, alcohol intake, physical activity, and seeking health-related knowledge. Given that education and income are highly related to health behaviours, we calculated adjusted prevalence rates for each health behaviour, adjusting for

education, household income, and a composite indicator for education and income by using the analysis of covariance (ANCOVA) procedure.

Results

A detailed description of the adjusted prevalence of each health behaviour is provided in Table 1. Similar patterns emerged for cigarette and alcohol use among subpopulations across different age groups: (1) for both men and women, prevalence rates were higher in rural than in urban areas across different age groups; and (2) patterns of use differed between men and women. For men in both urban and rural areas, the prevalence rates reached a peak among men aged 40-69 years.

Although a much lower percentage of women smoked or used alcohol compared with men in the same age group, the rates continued to increase as age increased, especially among rural residents. Residents in urban areas had a higher rate of leisure time physical activity than their rural counterparts; however, there was little gender difference between urban and rural settings. Starting at age 40 years, the rate of physical activity increased as age increased. However, the rate of physical activity was lowest for individuals aged 25-39 years for both men and women in rural and urban settings. Among rural residents, the percentage of respondents seeking health-related knowledge decreased as age increased. The percentage of urban residents who sought health-related knowledge was relatively stable across age groups. In addition, the percentage of urban residents seeking health-related knowledge was higher than their rural counterparts across all age groups. Overall, the percentage of men in rural areas who sought health-related information was higher than for their female counterparts, whereas little gender difference was found for urban residents.

Discussion and implications

Multi-dimensional measures of health behaviours were used in this study, extending previous findings from other studies by showing that rural residents had a higher prevalence of unhealthy behaviours than their urban counterparts. The prevalence of cigarette and alcohol use was higher for rural than for urban residents and for men than for women. Although the prevalence was quite low for women, the rate increased as age increased. In addition, we found that peak cigarette use occurred among middle-aged and young-old populations, which is consistent with findings from other studies.

These health behaviours reflect cultural expectations towards health behaviours for men and women. Traditional Chinese culture encourages smoking and drinking for men, and men who are smokers and drinkers are perceived as masculine. However, Chinese culture discourages women, especially young women, from smoking and drinking. These health behaviours also reflect the effect of the socio-economic system on individual behaviours. The study shows that rural residents had a higher prevalence of unhealthy behaviours. In addition to individual level factors, such as lower education and income levels, several social and environmental factors may contribute to this phenomenon: (1) absence of public awareness and policy on adverse health outcomes related to unhealthy behaviours; (2) less restriction and control of drinking and smoking; and (3) lack of sources for people to access health-related knowledge.

Our findings have implications for prevention policies and programmes to promote healthy behaviours in China and other developing countries with a similar socio-economic structure and similar cultural expectations towards health behaviours. Although most of the published

literature focuses on health behaviour prevention and promotion programmes among teenagers, college students, or young age groups, we found that overall health behaviour is most worrying among middle-aged people and young-old male groups in rural areas. These findings have not been emphasized in previous studies. Therefore, more attention needs to be paid to promoting healthy behaviours among middle-aged and older age groups. Health behaviours are strongly related to the incidence of chronic diseases, functional limitations and mortality. Investigators have suggested that those who quit unhealthy behaviours in old age can still have a significant effect on their health and overall quality of life. Promoting healthy behaviours for middle-aged and old age groups would also have a significant effect on decreasing the onset of chronic conditions and functional limitations and would improve healthy aging.

Table 1 Adjusted rate^a of smoking, alcohol use, physical activity, seeking health knowledge by age groups, gender, and residential setting

	Smoking	Alcohol use	Physical activity	Health knowledge	N
Age (years)					
Urban male					
15–24	13.2	1.8	31.4	61.0	282
25–39	47.4	7.0	21.1	67.4	619
40–54	54.7	18.9	29.2	69.9	699
55–69	42.5	16.1	53.1	74.1	456
70–101	24.4	6.7	57.3	70.2	196
Total	42.4	11.9	34.5	69.0	2252
Urban female					
15–24	0.9	0	23.3	66.8	268
25–39	1.4	0	19.1	69.9	648
40–54	1.7	0	35.8	70.0	710
55–69	5.3	0.8	56.3	74.1	514
70–101	10.1	0	42.5	65.8	197
Total	3.0	0.2	34.8	70.1	2337
Rural male					
15–24	11.5	3.4	21.8	48.9	1044
25–39	47.6	19.9	2.2	46.3	1626
40–54	62.1	33.2	2.2	39.4	2075
55–69	59.1	34.1	5.6	38.3	1023
70–101	49.2	26.3	6.9	28.8	346
Total	48.4	24.3	6.4	42.1	6112
Rural female					
15–24	1.9	1.6	12.8	47.2	943
25–39	2.4	2.2	0.5	42.1	1851
40–54	3.7	3.1	1.3	32.6	2022
55–69	9.1	4.4	3.2	29.0	905
70–101	12.2	4.4	3.7	16.8	380
Total	4.3	2.9	3.3	36.3	6103

^aThe prevalence rate was adjusted by education, income, and a composite indicator for education and income.

Health behaviours are a multi-dimensional construct. Cigarette use, alcohol use, and physical activity have most commonly been used as indicators of health behaviours. Although seeking health-related knowledge has not been commonly studied, it is an important dimension. These indicators represent different aspects of health behaviours, but they are inter-related. A multi-dimensional and comprehensive programme can be more effective in promoting overall healthy behaviours of individuals.

Current prevention and control programmes and policies need to consider the social and cultural contexts within which health behaviours exist. A broad agenda for the prevention of unhealthy behaviours should integrate a focus on gender, socio-economic status, place of residence and social environment. This is especially the case in rural areas where conditions are significantly more adverse than in urban areas. Although an individual approach can be effective for addressing health problems, it has had limited success when used in isolation. Creating a healthy social environment and changing cultural attitudes towards unhealthy behaviours are more imminent needs for promoting individual healthy behaviours in countries like China.

References

1. Kim S, Symons M, Popkin BM. Contrasting socioeconomic profiles related to healthier lifestyles in China and the United States. *Am J Epidemiol* 2004;59:184–91.
2. Hu TW, Tsai YW. Cigarette consumption in rural China: survey results from three provinces. *Am J Public Health* 2000;90:1785–7.
3. Pan Z. Socioeconomic predictors of smoking and smoking frequency in urban China: evidence of smoking as a social function. *Health Promot Int* 2004; 19:309–15.
4. Winkleby MA, Cubbin C. Changing patterns in health behaviors and risk factors related to chronic diseases, 1990–2000. *Am J Health Promot* 2004; 19:19–27.
5. Liu Y, Hsiao WC, Eggleston K. Equity in health and healthcare: the Chinese experience. *Soc Sci Med* 1999;49:1349–56.
6. Zhou XH, Su ZH, Deng HQ, Xiang XJ, Chen HX, Hao W. A comparative survey on alcohol and tobacco use in urban and rural populations in the Huaihua District of Hunan Province, China. *Alcohol* 2006;39:87–96.
7. Yang G, Fan L, Tan J, Qi G, Zhang Y, Samet JM, et al. Smoking in China: findings of the 1996 National Prevalence Survey. *JAMA* 1999;282:1247–53.
8. Yang G, Ma J, Chen AP, Brown S, Taylor CE, Samet JM. Smoking among adolescents in China: 1998 survey findings. *Int J Epidemiol* 2004;33:1103–10.
9. Chen ZM, Xu Z, Collins R, Li WX, Peto R. Early health effects of the emerging tobacco epidemic in China. A 16-year prospective study. *JAMA* 1997;278:1500–4.
10. Taylor Jr DH, Hasselblad V, Henley SJ, Thun MJ, Sloan FA. Benefits of smoking cessation for longevity. *Am J Public Health* 2002;92:990–6.