Author's response to reviews

Title: Male and Female Adult Population Health Status in China: A Cross-Sectional National Survey

Authors:

    Jing Shi (shijing8989@yahoo.com.cn)
    Meina Liu (liumeina@ems.hrbmu.edu.cn)
    Qiuju Zhang (zqj81129@sina.com)
    Mingshan Lu (Lu@ucalgary.ca)
    Hude Quan (hquan@ucalgary.ca)

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Dr Lolu da-Silva
Senior Assistant Editor, BMC-series journals

Dear Dr. da-Silva;

RE: MS: 1227370412183271
Male and Female Adult Population Health Status in China: A Cross-Sectional National Survey

Thank you for giving us the opportunity to resubmit the above manuscript. We greatly appreciate the helpful comments provided by the reviewers. The manuscript has been revised in response to the comments that you provided us. Below, we provide an itemized summary of the changes made. Reviewers’ comments are shown in italics, followed by our responses. Additions to the manuscript itself are bolded.

Comments from Reviewer 1

Major Compulsory Revisions

The content of the paper is descriptive and provides important information for generating research questions for future studies. However, the survey data make it possible to answer a lot of questions. For instance, the paper would benefit from the inclusion of an analysis of the clustering of risk factors and health problems by educational level, by rural/urban residency or the east-west gradient. Because this is the third national health survey another interesting possibility would be to study trends. I recommend that the authors expand the article by presenting results from analyses of some of these topics.

These are excellent comments. Initially, we proposed to analyze three cycles of the surveys to describe health status trends. Unfortunately, the China Ministry of Health only allowed us to access the 3rd survey. Therefore we described only one cycle of the survey in this paper.

In China, disparity in rural and urban social and economic development is much larger than that in regional (east, middle and west of China) development. Compared with the urban population, the rural population (58% of total population) has much lower income (about $3000 versus $9000 Canadian dollars per year), is less educated (7 versus 9 years schooling on average), and has a much higher health uninsurance rate (55.2% versus 20.9%). The unequal distribution of these important health determinants may lead to rural-urban health inequalities.

Rural and urban difference in health status itself can be a paper largely due to its content. We expanded our paper by adding differences between the rural and urban adult Chinese populations in self-reported health status, morbidity, quality of life, smoking, alcohol
consumption and exercise among males and then among females. These stratified analyses are presented in Table 4 and Table 6 and were highlighted in Results as the following.

‘Respondents aged 65 years or older had much poorer health status than those aged less than 65 years old among males and females (see Table 4). A similar proportion of rural and urban respondents rated their health status as being poor or very poor (4.8% versus 4.7% for males and 6.3% versus 6.1% for females), and reported the presence of illness in the last 2 weeks (14.2% versus 14.0% for males and 17.3% versus 17.6% for females). However, fewer rural respondents reported chronic disease than urban respondents (13.0% versus 19.9% for males and 15.5% versus 22.8% for females). In all seven items of the quality of life measure, rural respondents reported problems less than urban respondents (26.2% versus 28.7% for males and 32.0% versus 34.7% for females).’

To interpret the rural and urban differences, we added four paragraphs in Discussion.

‘In contrast with the social-economic gradient in health commonly found in the literature, China’s national physical measurement study\(^{12}\) reported that the unawareness of diabetes was 71% and 62% for rural and urban populations, respectively.’

We also added the following in the Discussion.

‘Smoking and alcohol abuse was very common in male population, particularly those in the middle age group, but was rare among females. This is related to the Chinese culture, which accepts male smoking and drinking but not female.\(^{30}\) China’s recent health promotion activities have achieved a decline in the male smoking rate from 70% in 1996 to 52% in 2003.\(^{31}\) However, many people are still unaware of the dangers in smoking; the proportion who were unaware of smoking’s dangers was over 60% in some provinces and higher in rural than urban area.\(^{31}\)’

**Minor Revisions, questions and suggestions**

1. The conclusions of the abstract exceed the topics of and the results from the study. The following conclusion was made in the Abstract:

   “Males had better health status than females in terms of self-perceived wellbeing, presence of illness, chronic disease, and quality of life. However, smoking and frequent alcohol drinking was more prevalent among males than that among females. In contrast with the social-economic gradient in health commonly found in the literature, the wealthier urban population in China was not found to be healthier than the rural population in terms of physician diagnosed chronic disease.”

   The similar statement was added in the Conclusion of the main text.

2. In the third section of the Introduction I suggest: "Life expectancy is… calculate it as vital data" (not "collected").

   It is corrected.

3. How is physical inactivity defined? What is meant by "regular exercise in the last 6 months"?

   The survey did not specify frequency of exercise to determine ‘regular exercise’. The question was answered by respondent’s perception. In the Methods, we added:
“Regularity of exercise was not defined in the survey and determined by respondent’s perception.”

A note for the definition was made under table 5 and 6.

4. In "Health Status and Determinants" in the Result section I suggest the change: "Men had lower prevalence of heart disease (1.4% versus 2.4%), hypertension (3.2% versus 4.0%) and rheumatologic arthritis (0.8% versus 1.5%) than women." This would be clearer, because the figures in brackets are men versus women.

   It has been changed.

5. Quality of life and Table 3 might be presented for people older than say 65 years, because I imagine that the problems are mainly related to older people.

   See table 4 for age specific analysis.

Comments from Reviewer 2
Outstanding study and well-written paper, no major comments.

Comments from editors

1. ETHICS: Please include a statement in the Methods section of the manuscript, documenting the name of the ethics committee that gave approval for the study, with a reference number where appropriate.

   To analyze the survey, we proposed the study to the China Ministry of Health. After obtaining approval, we analyzed the data in the statistical data analysis office in the Ministry using computers in the office. The officials in the Ministry examined all our analysis results and allowed us to take aggregated statistics out of the office for manuscripts. Therefore, the Ministry does not require ethics. We added the following in the statistical analysis section of Methods.

   ‘The data were analyzed at the health information centre of the Ministry of Health in Beijing. Confidentiality of the survey was protected through storing the data on password protected computers at the Ministry, removal of personal identifiable information (such as name and address) from the database available for researchers and examining analysis outputs for release of aggregated data by the centre staff.’

2. AUTHORS’ CONTRIBUTIONS: Please include an Authors’ contributions section before the Acknowledgements and Reference list.

   We added authors’ contributions in the manuscript.

3. COMPETING INTERESTS

   We added: ‘The authors declare that they have no competing interests’.

   Again, we would like to thank the reviewers for all the detailed and helpful comments. We believe that our paper has improved through the review process and formatted the manuscript following BMC requirements. We look forward to hearing from you with a decision on our paper.
Yours sincerely,

Hude Quan MD PhD
Associate Professor
University of Calgary

For all coauthors