Author’s response to reviews

Title: Factors associated with utilization of maternal serum screening for Down syndrome in mainland China: a cross-sectional study

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Author’s response to reviews:

Nov. 5, 2015

Dear Dr. Claudia Hanson,

On behalf of my co-authors, we thank you very much for giving us the opportunity to revise our manuscript: “Factors associated with utilization of maternal serum screening for Down syndrome in Mainland China: A cross-sectional study” (ID: BHSR-D-15-00072). We appreciate you for your comments and suggestions on our manuscript.

We have made corrections which we hope to answer your question and improve our manuscript. Revised portions are marked in blue in the paper. The main corrections in the paper and the responses to your comments are as following:

Responses to your comments:

1. I checked the resubmission and would like to recommend again revisions and an explanation why the 4 models were chosen. The reviewers had requested more on the methods, and much important had been added, but it remains unclear for me why the four models - which rather looks like 4 different outcomes - were chosen. The authors need to lead better through the results section and the tables so that this part get clearer
Response to comment: about the reason why the 4 models were chosen

As provided in the manuscript that the Andersen model of health care utilization is a general framework to study factors in health service uptake. It was indicated that people’s health behavior is a function of predisposing factors, enabling factors and need factors (Fig.1). And the main effect flow was from contextual characteristics to individual predisposing factors, enabling factors, and need factors, to personal health practices, process and health service utilization. It was such a comprehensive model that included almost all kinds of determinants of health service utilization.

Fig 1 The Andersen model of health care utilization (phase 5) (Please find from the cover letter)

In our manuscript, from model 1, all the above 6 kinds of factors (in blue of Fig 1) were found associated with the outcome variable (MSS utilization). And the respondents’ health beliefs (attending maternal preparation class or not), personal health practices (times of routine prenatal checkups), process of health service (DS knowledge) were the key intermediate variables for MSS utilization.

And model 2-4 were used to find the associated factors of the above three key intermediate variables according to the Andersen Model shown above. The 4 outcome variables of the 4 models can be traced through the factors flow of Andersen model. So that we can get more information about the general association among the different factors for health decision making. Actually, there was some literatures focused on the associated factors of users’ health belief, knowledge and behaviors about maternal health service utilization.

If we choose the 4 models methods, we can do two things:

1) To find the key vulnerable population of MSS utilization. If we use model 1 only, we can conclude from the result that the vulnerable population including those migrant, resided in less developed area and rural area, low educated ones, etc., which were similar to the general experience of mainland China. But the corresponding policy making would face trouble as it was not appointed. If the 4 models were used and their results were combined, insufficient education was found to be the key factors of MSS utilization.

2) To explore the relationship between the intermediate variables and their associated factors, so as to perform reason analysis for MSS underutilization much more easily.

2. Moreover, all OR should be given in text and tables with two decimals but not more.
Response to comment: about giving ORs in text and their decimals.

We have added the key ORs in the text and their decimals in the table were adjusted according to your suggestion.

In conclusion, we have tried our best to explain the reason why the four models were chosen and to revise our manuscript according to your suggestion. Attached please find the revised version, which we would like to submit for your further consideration.

We would like to express our great appreciation to you for valuable comments on our manuscript. We look forward to hearing from you.

Thank you and best regards.

Yours sincerely,

Chuanlin Li and Yingyao Chen