Reviewer’s report

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

Version: 0 Date: 23 Aug 2015

Reviewer: Neeltje Crombag

Reviewer's report:

Thank you for the opportunity to read this engaging paper and very interesting to see factors associated with use in a different country/ part of the world. The manuscript presents an impressive amount of data which is probably of great interest of China.

My specific suggestions for strengthening the paper are as follows:

First, in the background (page 5, second paragraph), I would suggest to expound/ reformulate this written statement. In most of European countries, the aim of providing MSS is to enable prospective parents in making reproductive (informed and autonomous) choices. One could take into account general costs of healthcare and consequences of introduction of a screening program on the general health care expenses, but reduction of societal costs should not be the aim of these programs, and is even considered as unethical as being a goal in itself.

Another concern I have, regards the Andersen model, first I would recommend to give some more background information on the model and how it can help in explaining health care utilization (p 7, second paragraph) and later use this information in the discussion as well. Besides I am a bit confused with the interpretation of Health Beliefs (page 10, first paragraph). As can be read from the paper "Revisiting the Behavioral Model and Access to Medical Care: Does it Matter?" by RM Andersen, health beliefs are attitudes, values and knowledge that people have about health and health services that might influence their subsequent perceptions of need and use of health services. Could you explain better how attendance at maternal classes explains the individual health beliefs of a person?
Results Table 3, it took me some time to understand, finally I managed, but the use of abbreviations or codes in the table were a bit confusing.

The discussion could benefit from more connection between results and what is written in the discussion section; this is in particular evident on page 16 (end of first paragraph should connect with first paragraph p 19), and page 16 second paragraph which might need some rewriting and it is unclear to me which point is being made here.

Page 18, first paragraph, would the combination of older women that make less use of MSS and less use of routinize prenatal check ups, provide a conclusion? e.g. access to care for older women is less (is there any information on where women of older age were more likely to live, educational status or receive their prenatal care?). But I agree I can not see these connections arising from the provided data

Overall, the manuscript would benefit form some careful proof reading, especially with regards to grammar (and sentences are sometime very long and hard to read and understand), preferably by a native speaker.

**Are the methods appropriate and well described?**

If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**

If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**

If not, please explain in your comments to the authors.

No

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**

If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics
Quality of written English

Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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