Reviewer's report

Title: Does acute maternal stress in pregnancy affect infant health outcomes? Examination of a large cohort of infants born after the terrorist attacks of September 11, 2001

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Reviewer: Andreas Beyerlein

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Review on „Does acute maternal stress in pregnancy affect infant health outcomes? Examination of a large cohort of infants born after the terrorist attacks of September 11, 2001”

This is a well-written paper with an interesting hypothesis. The data seem to be of high quality, and the statistical approaches chosen are appropriate. I would like to address only some minor points:

METHODS

- P. 7: It was difficult for me to understand your definition of preterm birth. On p. 6 you wrote that your database contained information about children’s EGA, so I assumed that this was recorded in completed weeks.
- P. 7: How could it happen that more than one 5-digit code existed for a single infant?
- P. 8: Why did you choose only women in the first trimester on 11 Sep for the analyses on male:female ratio and birth defects? Was it because these outcomes are based on events happening mainly in the first trimester? If so, please state this.
- P. 9-10: Please give an example what you concluded from chi-square tests. Which variables showed multicollinearity, and what did you conclude from this? Since the final models obviously contained the same variables (tables 1-3), I don’t think you need to give the information on chi-square tests and regression diagnostics.

RESULTS

- P. 10: Please give OR and CI of male:female ratio in your logistic regression analyses.

DISCUSSION

- P. 13: You write that the male:female ratio may be an indicator of pregnancy losses. For the non-clinical reader, it would be helpful if you stated this earlier, e.g. in the Introduction.
- P. 14: You refer to a study having shown that “military members ... experienced healthy psychological responses” after 11 Sep. However, 82% of the mothers in your data were only related to military members (p. 5-6), but did not do military services themselves. Could it be possible that, while male military members reacted (at least partly) in a positive way, their wives’ reactions would be rather negative (e.g. fearing that their husband has to leave for a long time etc.)? This might confirm the validity of your approach.

- P. 14: You might state somewhere that the 11 Sep probably did not put as much stress on women as a natural disaster would (although I find it surprising that assassination of politicians might do). This might explain your unsignificant findings.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests.