Reviewer’s report

Title: Risk factors for impaired maternal bonding when infants are 3 months old: a longitudinal population based study from Japan

Version: 0 Date: 07 Apr 2018

Reviewer: Arthur Caye

Reviewer’s report:

Dear editor,

Dear authors,

Thank you for the opportunity to review the manuscript "Risk factors for impaired maternal bonding when infants are 3 months old: a longitudinal population based study from Japan" for possible publication in the BMC Psychiatry. The present study investigated risk markers longitudinally associated with impaired maternal bonding three months after birth. Authors leveraged on a large population-based sample of pregnant women in Japan. In general, the manuscript is well-written and easy to follow. Statistical analyses are appropriate. In my opinion, however, there are some concerns that need to be addressed before the manuscript should be considered for publication in this or other journals.

1) The introduction fails to define precisely what is the gap in the literature that aims to be filled by the study, and why is this important. For instance, they mention that "only several non-clinical longitudinal studies have examined the association between maternal depression and bonding in non-western countries", but "previous studies did not collect data from the first trimester of pregnancy". However, there is no description of assessments at first trimester in the Methods section. Authors then mention that the time of follow up of 3 months was innovative, citing previous Japanese studies that only assessed maternal bonding at 1 month and 1 year. However, they do not justify the importance of filling this specific gap.

2) Authors select cut-offs for the PBQ based on means and standard deviations, but not on previous validations of the instrument. This selection affects the results of the entire study and should be carefully assessed. Cut-offs are most commonly based on previously published validity studies, preferably in a similar sample. If authors have solid reasoning for keeping a data-driven cut-off, they should assure the reader that the PBQ follows normal distribution, which is a premise for considering mean and standard deviations as valid references for cut-offs. Similarly, is there any reasoning or previous example for using three categories of maternal bonding in the study? On one extreme, a binary dichotomous outcome is easier for summarizing the evidence and for the understanding of the reader. On the other hand, analyzing the data as a continuous outcome increases power and richness of information.
3) It is not clear the time on which the additional variables were collected (i.e., maternal feelings toward pregnancy, perceived mental illness before pregnancy). It is convenient that the questions used and possible answers are provided, for instance, in supplemental material, for guaranteeing reproducibility of the current study.

4) There is no justification provided for performing two multivariable analyses, with and without post-partum depression. All variables involved should be considered at once.

**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.

Yes

**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:

Acceptable

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