Author’s response to reviews

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

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RESPONSE TO REVIEWER:

First of all, we deeply appreciate the reviewer for a careful reading of our manuscript and for giving important comments again. We have revised the manuscript “Risk factors for impaired maternal bonding when infants are 3 months old: a longitudinal population based study from Japan” on the basis of the reviewer's comments.

Our responses to the reviewer's comments are as follows:

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Editor reports 1) Under your Ethics approval and consent to participate heading in the Declarations section, please clarify whether informed consent obtained from participants was written or verbal.

Response: We revised the text (Declarations section, page 12, lines 20-22) as follows.

“Information on participation in the study was written in the questionnaire. A verbal informed consent was obtained from all participants before including them in the study.”
Editor reports 2) When submitting your revised manuscript please ensure you do so as a single clean copy without any tracked changes, colored or highlighted text, as these are no longer required at this stage of the editorial process.

Response: We have submitted our manuscript following the above instructions.

Reviewer reports 1) Methods section under PBQ: best to refer to items raging from 0 (never) to 5 (always) (not the scale).

Response: We have revised the text (Method section, page 6, lines 8-9) as follows.

“Each item in this self-report scale is scored as 0 (never), 1 (rarely), 2 (sometimes), 3 (quite often), 4 (very often), and 5 (always), and a higher PBQ score means higher level of impaired maternal bonding”

Reviewer reports 2) Throughout the paper, the authors refer to "univariable" analysis when in fact it should be "bivariate" analysis as the authors are referring to the relationship between 2 variables.

Response: We have replaced the “univariable” with “bivariate” throughout the manuscript and tables. We have also replaced the “multivariable” to “multivariate” for uniformity.

Reviewer reports 3) Under the statistical analysis section of the paper, it would be informative to state that for the logistic regression models, 2 models were performed one comparing moderate level of impaired maternal bonding to low level and another comparing high level of impaired maternal bonding to low level.

Response: We added the text (Method section, page 7, lines 18-20) as follows.

“In the logistic regression analysis, low level of impaired maternal bonding was set up as the reference. Moderate and high level of impaired maternal bonding were then compared to low level of impaired maternal bonding.”

Reviewer reports 4) For the statistical analysis, it would be good to clearly state that alpha level < 0.10 was used for inclusion in the multivariable logistic regression analysis and an alpha of 0.05 for significant associations for the final models.
Response: We revised the text (Method section, page 7, lines 15-17, and page 8, lines 5) as follows.

“The level of statistical significance used in the bivariate analysis was p<0.10 to determine the variables for inclusion in the multivariate logistic regression analysis.” “The level of statistical significance was p<0.05 for the multivariate analysis.”

Reviewer reports 5) For the discussion section (for example page 10 - line 12-18), it would be informative to discuss the results of the multivariable analysis and not the bivariate analysis (reported as "univariable" in the paper) since the bivariate analysis are confounded by the other factors.

Response: We revised the text (Discussion section, page 10, lines 17-18) as follows.

“Having first child was associated with only moderate level of impaired maternal bonding in the final model.”

In addition, we removed the following results from the discussion’s first paragraph as they were not significant in the final model.

“Third, experiencing stress symptoms, a history of mental illness, having an infant with low birth-weight, or combined breast- and bottle-feeding were associated with impaired maternal bonding three months after delivery. However, these associations did not remain significant when the analyses were controlled for the other explanatory variables.”

Reviewer reports 6) Justification as to why infant sex was included in the multivariable logistic regression model even though it was not significant at the alpha 0.01 is needed.

Response: We added the text (Method section, page 8, line 2-5) as follows.

“Although infant’s sex was not significantly associated with impaired maternal bonding in bivariate analysis, we included it in the multivariate analysis, because it is an important demographic variable and has been reported as an important risk factor for impaired maternal bonding especially in Asian culture [13].”

Reviewer reports 7) Due to small sample size for mothers < 19, I suggest merging lowest 2 categories. I also suggest merging the categories "vacuum extraction" and "Forceps delivery" to perhaps "assisted delivery".
Response: We merged the categories of age “≤19” and “20-24” to “≤24”. “Vacuum extraction” and “forceps delivery” were also merged to “assisted delivery” on the basis of the suggestion. This did not change our results, i.e. mother’s age and the type of delivery were still not associated with impaired maternal bonding in bivariate analysis. The text (Method section, page 6, lines 20-21 and page 7, line 7) is revised as follows.

“mother’s age (≤ 24, 25-30, 30-34 or ≥35 years)”, “assisted delivery, i.e. vacuum extraction or forceps delivery”

Reviewer reports 8) I suggest adding the headings for the variables presented in Table 1 to Tables 2 and 3 (this would make flow and reading of the results easier to follow).

Response: We added the headings for the variables from Table 1 to Table 3.

Reviewer reports 9) It would be helpful to include the limitation of using 15 items from the Japanese PBQ instead of the 16 items. Also, for the limitations section, it maybe a good idea to talk about potential confounding variables that the authors may not have adjusted for.

Response: We added the text (Discussion section, page 11, line 19-21) as follows.

“Fourth, we used only 15 items of PBQ, while Japanese version of PBQ was validated with 16 items later. Fifth, it was not possible to adjust for residual confounding due to factors such as socioeconomic status, marital relationship, or infant’s temperament in this study. “

Lastly, we added sentences in the Acknowledgements (Declarations section, page 13, line 13-14) as follows.

“We wish to acknowledge the staff at Hekinan City Public Health Center for their support. We also wish to acknowledge Professor Ishii Hidetoki and Dr. Terao Takahiro for statistical advice. “

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Again, thank you very much for giving us the opportunity to strengthen our manuscript with your valuable suggestions and comments. We have worked hard to incorporate your feedback and hope that these revisions persuade you to accept our submission.

Sincerely,

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