Author's response to reviews

Title: Psychological, Cultural and Neuroendocrine Profiles of Risk for Preterm Birth

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Author's response to reviews: see over
Reviewer's report
Title: Psychological, Cultural and Neuroendocrine Profiles of Risk for Preterm Birth
Version: 2 Date: 4 May 2015
Reviewer: Chunfang Qiu

Reviewer's report:
Summary:
As the reviewer understood according to the text: It’s a prospective observation study design. In 515 Mexican American pregnant women, psychological, cultural and neuroendocrine measures were done at 22-24 weeks gestations. While 57 (11.1%) participants developed preterm births. The 515 cohort were carrying singleton and did not have pre-existing chronic disorders, except all had a history of preterm births (page 7, please confirm) (not all had history, patients were not excluded if they did have a history of PTB). A latent profile analysis of risk for preterm birth using structural equation modeling (SEM) was conducted. The data-driven risk profile is positively associated with increased subsequent PTB risk.

A few concerns remained:
1. Why did authors refer the study as a cross-sectional design, what’s the distribution of gestational age at delivery for those PTBs?

The current study is the retrospective data analysis of a prospective study. In the current study, we determined whether psychological factors can stratify the cultural, neuroendocrine risk of PTB outcome. In this study, we examined the homogeneous psychological risk groups and associated with cross-sectional outcomes such as acculturation, biological measures and follow up infant outcomes. Thus, we referred the study as a cross-sectional study. Mean gestational age for preterm babies was 34.76 SD: 3.04, median: 36.14, minimum: 23.86 and maximum: 37 weeks. Please see line 310-312 in the text of the paper for description of frequency of gestational age at delivery.

2. If it’s a prospective design, will it change the sample size calculation estimation?
No, the sample size used in the study is more than sufficient for our primary question in the study. To clarify again, this study was planned as a cross-sectional study to determine the psychological risk profile for PTB utilizing data from a large prospective study.

3. As authors indicate in page 10-11, LPA were constructed based on 18 psychological only variables (4 BDI, 2 mastery, and 12 brief coping sub-scales)). Does the author also take into account of cultural components or neuroendocrine measures (CRH) (page 10-11) in the LPA; if not, please revise the title, abstract accordingly. The introduction objective is more accurate (page 6).
The LPA was constructed initially analyzing the psychological variables to determine clusters of data. We then examined differences in the profiles to better characterize risk: demographics, acculturation levels, prenatal and biological measures, and most importantly infant outcomes. The profiles are characterized by all these variables, thus the title includes them.

4. Have the authors took a look at the utilization of prenatal care (especially start of prenatal care etc). Prenatal care may simply serve as a marker for higher socioeconomic status, more conscientious health behaviors, or other factors that truly predict lower risk of preterm birth. Maybe it can be added to the predicting risk profile.

Our risk profile is not associated the start of prenatal care. We have now added start of prenatal care in table 3. It was not significantly different among risk groups. The start of prenatal care may be an independent predictor or a confounder for PTB but it does not interact with psychological risk profile construct for PTB.

5. What’s the proportion of medically-induced preterm births (PTB)? The risk profile might be different in spontaneous PTB and medically-induced PTBs.

Among 57 preterm babies, 36 were spontaneous labors while 11 were medically induced preterm births. Spontaneous labors and medically induced preterm births are not significantly different in 3 risk profiles for preterm births. Please see line 313-319 for further explanation.

6. If the author can show a figure with standardized regression weights for paths associated with the best fit model (SEM)?

We did latent profile analysis not SEM, so there is no best fit model.

Other minor checkup:
1. please check the % for GDM in Table 3, they are unusually high.

For the GDM, we inappropriately reported row-wise percentages. Now, we provided appropriately column percentages for GDM.

2. Figure 2 legend –please add the note for the green column

We changed the graph and added the legend for green column.

Level of interest: An article whose findings are important to those with closely related research interests
Quality of written English: Acceptable
**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**
'I declare that I have no competing interests
Reviewer's report
Title: Psychological, Cultural and Neuroendocrine Profiles of Risk for Preterm Birth
Version: 2 Date: 23 April 2015
Reviewer: Carmen Giurgescu

Reviewer's report:
Thank you for the opportunity to review this manuscript. The topic of risk factors for preterm birth is important for health care providers. I have few recommendations for minor revisions that would improve the clarity of the manuscript:
1. Introduction: Please add the preterm birth and low birthweight rates for whites as a comparator group.

Please see lines 104-106 as this has been added.

2. Methods: Please add sub-headings (e.g., design, sample and setting). Page 8 line 195: please explain if the questionnaires were self-administered or interviewer administered.
It is noted in the Discussion section that both English and Spanish versions of the instruments were used. Please add to it to the Methods section.
The researchers report internal consistency for both the English and Spanish versions of the Brief Cope. However, it is not clear if the Cronbach's alpha reported for the other instruments were for the English or Spanish versions. Please report internal consistency for both English and Spanish versions for the other instruments.

The Cronbach's alpha have been adjusted to reflect both English and Spanish.

3. Results: It is to the discretion of the authors, but I recommend adding a paragraph on sample characteristics at the beginning of the Results section. It would be easier for the reader to have a paragraph on sample characteristics before focusing on the characteristics of the groups as presented in Tables 2 and 3.

Paragraph was added at the beginning of the results section describing the study population.

Table 3: In the Results section it is reported that "the difference in proportion of infections was statistically significant between LRP and HRP groups". However, data on infections are not presented in Table 3. Please add.

Proportion of infections and the p-value were now added to the table 3.

Figure 2: Please add infections to the note and identify the statistically significant difference in infections between LRP and HRP.
We changed the graph as requested.

Thank you again for the opportunity to review this manuscript.

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

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**
I declare that I have no competing interests.