Reviewer’s report

Title: Short Sleep Duration, Complaints of Vital Exhaustion and Perceived Stress Are Prevalent among Pregnant Women with Mood and Anxiety Disorders

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Reviewer: Elena Toffol

Reviewer’s report:

Comments to the Author

This manuscript addresses the question of the association between psychiatric disorders and sleep complaints during early pregnancy. The authors report data on 1332 women interviewed during week 8-19 of their pregnancy. In general, the study aims and results are interesting and the current paper provides a valuable input to the research on the psychological well-being of pregnant women. However, in my opinion there are some concerns which must be addressed before the paper is ready for publication.

Major compulsory revisions

1. My major criticism regards the effect of timing since the psychiatric diagnosis was made. It is not clear to me if the authors have included in their analyses only women with a recent (if so, how recent?) psychiatric diagnosis, or women with a lifetime psychiatric diagnosis. The authors should clarify this point. If all women who had a lifetime psychiatric diagnosis were included, than the group with a “physician diagnosed mood/anxiety disorder” includes women who were still depressed/anxious at the time of the interview, along with women who had an anxiety/mood disorder recently before the pregnancy, as well as women who were diagnosed with depression/anxiety even several years before the pregnancy. If it is true that depression and anxiety may be chronic or recurrent disorders, this is not always the case. It is therefore possible that factors other than having a psychiatric disorder diagnosed in the very past influence sleep and stress perception during pregnancy. I would recommend clarifying this point and possibly considering the effect of timing since the diagnosis (and/or the difference between active/past disorder) in the analyses (or thoroughly addressing this point in the limitations). Similarly, I would suggest making this point clearer in the title and in the abstract.

2. A second criticism concerns the discussion: the section is too long, in particular the review of the literature is too broad and too detailed. The authors should rather describe and comment on their own results, and only briefly reference those studies which support (or not) their results. I would recommend shortening and rewriting paragraphs 2 to 4. In this respect, it should be noted that all the studies the authors have cited here have analysed pregnant women who were currently depressed at the time of the evaluation (i.e., they have studied the association between depression during pregnancy and sleep), in contrast with
this paper.

3. The authors comment mostly on their results on sleep complaints: I would suggest discussing the results on perceived stress and referencing previous studies from the literature concerning stress during pregnancy and its association with mental health.

4. In the results section, first paragraph: the authors state that "Selective serotonin re-uptake inhibitors (SSRIs) were the most commonly used antidepressants (53 of 58), whereas benzodiazepines were the most commonly used anxiolytic medications (3 of 13)". Does this mean that the women were still using those medications at the time of the assessment, or does it rather refer to a past use? If it was a current use, would it be possible to control the results for this factor? If it was rather a past use, is this relevant here or could it be just omitted?

Discretionary Revisions

1. Data Collection, paragraph 1. The authors mention bipolar disorder among the diagnoses included in the medical records, but they do not report any case of bipolar disorder. Was it so that no woman had such a diagnosis? Or were they included in the 55 with a diagnosis of mood disorder?

2. Statistical Analysis and Table 1. It would be interesting to know why the authors have chosen some of the covariates / study characteristics, such as family history of diabetes and hypertension, or use of prenatal vitamin.

3. Information in Figure 1 does not add much to what is already reported in Table 3. Could the authors consider omitting it or having it as an additional file?

4. Table 4. The authors present here interesting results suggestive of separate effects of obesity and psychiatric diagnosis on sleep and stress during pregnancy. I would suggest commenting on these results somewhat more in detail in the discussion.

5. Table 5. The table is quite detailed and the same information is presented also in the text. I would shorten and rewrite the section concerning the review of the literature (in the discussion) and consider keeping Table 5 as an additional file.

Minor Essential Revisions (minor issues not for publication)

1. Introduction. Please rewrite, in order to solve the apparent contradiction in paragraph 2: "However, despite these observations, little information is available concerning the association of mood and anxiety disorders with sleep characteristics during pregnancy. We are aware of several studies that have assessed maternal early pregnancy sleep characteristics among depressed pregnant".

2. Methods. Was the question used to assess vital exhaustion (and its scoring) derived from any structured questionnaire or did the authors ideate it? Please, specify.
3. Table 1. The headings indicate that results are presented as percentages, but the Table includes also means and SDs (e.g., maternal age, pre-pregnancy body mass index). Indeed, the footnote says "mean +- SD", but what it refers to is not marked in the table itself.

4. Table 5:
- Okun et al., study findings: p-value for sleep < 7hr should be 0.008.
- Swansoon et al.: please check the spelling (Edinburgh Postnatal Depression Scale; PSQI should be PSQW; R should be OR); in "study findings": please report whether the correlations were significant or not.
- Field et al., 2007: the finding is that depressed women had higher scores on sleep disturbances, and not that they were more likely to report sleep disturbances.

Other comments:

1. Methods, Study Population and Setting. Please, check the following sentence: "Between 8-19 weeks (mean and standard deviation: 16.0±2.6) weeks gestation, participants reported sociodemographic, behavioral, and health characteristics in a structured interview".

2. Discussion, paragraph 2. "However, sleep deprivation, as reflected by percentage of total sleep duration <7 hrs (39.0% vs. 21.5%, p=0.008) and insomnia symptoms (55.9% vs. 30.4%, p=0.004), was greater for depressed women only at 20 weeks gestation compared with non-depressed ones". Please check from Okun et al.'s study and make sure that the reported figures and p-values are correct.

3. Discussion, paragraph 4. Please check the following: "The ORs for reporting significant symptom of depression (EPDS>12) (OR=11.1, 95%CI 1.5-83.4) and generalized anxiety symptoms (PSQI#12) (OR=3.6, 95%CI 1.3-9.8) also greater for women scored above the threshold for severe insomnia symptoms."

4. Discussion, paragraph 6. Please check the following: "Hypothalamic-pituitary-adrenal axis also involved in the association between psychiatric disorders and perceived stress level".

**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